

**NORTH REGION EMERGENCY MEDICAL SERVICES
AND TRAUMA CARE COUNCIL**

**FY02-03 NORTH REGION SYSTEM
PLAN**

FY02-03 NORTH REGION SYSTEM PLAN

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Acknowledgements

The North Region EMS and Trauma Care Council would like to acknowledge and thank the contributors to this regional system's successes. Without the hundreds of hospital and prehospital providers, both paid and volunteer, dispatch center staff, injury prevention speakers and volunteers, local council members, Medical Program Directors, instructors and trainers, and general public support, this system could not exist.

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Emergency Medical Services and Trauma Prevention

NORTH REGION EMS AND TRAUMA CARE COUNCIL FY 02-03 BIENNIAL PLAN

INTRODUCTION

Summary of proposed changes within this Regional Plan, which require specific Department approval

- 1) Recommended numbers of Department-approved verified prehospital services within the region:**
Minimum and maximum numbers of prehospital verified services include changes. New recommendations are included in the FY02-03 Trauma Plan under section IV. Prehospital starting on page 45.
- 2) Recommended numbers and/or levels of Department-designated trauma services and/or rehabilitation services within the region:**
No changes designated trauma rehabilitation services. There are no changes in department-designated trauma services in this biennial plan.
- 3) Current Department-approved regional Patient Care Procedures and/or County Operating Procedure appendices to current Department-approved regional Patient Care Procedures:**
No changes in regional Patient Care Procedures and/or County Operating Procedure appendices to current Department-approved regional Patient Care Procedures.

MISSION

North Region Emergency Medical Services and Trauma Care Council (North Region EMS) continues to inform the community that ***Trauma*** is the number one killer of Americans between the ages of one and forty-four. We believe that trauma deaths are avoidable. Nationally, for every one thousand dollars spent to care for injury, less than two dollars is spent on injury prevention and research. Statistics have shown that trauma deaths are greatly reduced when an organized trauma system is in place. A successful trauma system is more than a vision and commitment from Emergency Medical Service agencies and health care facilities acting as a trauma service, it's a commitment from all of us.

Since 1990, Washington State has developed one of the more comprehensive statewide EMS and trauma systems in the country. The development of this system shows Washington State's commitment to addressing EMS and trauma issues. The State feels that it is in the best interest of the public to establish an efficient and well-coordinated statewide EMS and trauma care system.

North Region EMS endorses this commitment and provides the following mission statement to help guide and re-enforce its work.

MISSION STATEMENT

The mission of North Region EMS is to promote a coordinated region-wide system. The System shall provide quality, comprehensive, and cost effective emergency medical and trauma care to individuals in Island, San Juan, Skagit, Snohomish, and Whatcom Counties.

EXECUTIVE SUMMARY

North Region is located in the northwest corner of the state and includes Island, San Juan, Skagit, Snohomish, and Whatcom Counties. The North Region EMS & Trauma Care Council (North Region EMS) facilitates regional trauma system planning, implementation, and system maintenance.

Administration

Administration includes regional leadership, system development, and implementation. The Regional Council carries out regional statutory requirements and sets the direction for the regional system. The Executive Director and Projects Coordinator work directly with the Council membership, Washington State Department of Health Office of Emergency Medical Services & Trauma Prevention, citizen and provider groups, and facilitates the Council's planning process and implementation strategies. State grant funding supports the regional work and the Council allocates available funds for system planning, implementation, and system improvements. An emphasis is placed on granting funds for projects of regional impact and meeting local needs, especially of the volunteer provider agencies. The Council produces a biennial plan, which addresses regional system progress and accomplishments and establishes goals and strategies for further system improvement. Operationalizing the regional system includes prehospital verification, hospital designation, prehospital patient care procedures, and data collection and system improvement.

Injury Prevention and Public Education

Injury Prevention and Public Information (IPPE) includes a regional program to inform the public and providers about the state and regional EMS and trauma system and injury prevention activities. North Region EMS places emphasis on (1) developing an understanding of the need for an integrated and timely, systematic, approach to providing care for injured patients, (2) appropriate use of 911, and (3) supporting and developing injury prevention activities and projects throughout the region using a network-building approach. The Projects Coordinator facilitates the Council's focus on preventing injury and works to develop collaborative relationships with other agencies with injury prevention missions, with a strong emphasis on EMS agencies. The Council provides grants for injury prevention programs and activities in the region, and funds and directs SAFE KIDS coalition (preventing unintentional injuries in children 1-14 years of age) Safety Restraint Coalition (car safety seats), and Protect Your Brain (helmets) programs.

Human Resources

Human Resources includes education of prehospital and hospital personnel who are involved with trauma care. The Regional Council provides grants for prehospital basic and continuing education certification training, prehospital and hospital trauma training for adult and pediatric care, and other specialized training identified as contributing to a regional trauma system, including: instructor training, emergency medical dispatcher training, and rescue training. A regional Education Committee and Trauma Facility Network, composed of representatives of county training groups and designated facilities, work closely with the Executive Board and Regional Manager on system planning, implementation and maintenance related to education.

Prehospital Care

Prehospital Care includes communications, EMS medical direction, and patient care procedures. The Regional Council provides a forum for communications center administration to explore inter-county and regional issues. The Council supports Emergency Medical Dispatcher training and Continuing Education (CE). The Council holds a minimum of quarterly Medical Program Director (MPD) meetings that focus on local and regional EMS and trauma system development. Patient Care procedures are the work of Council committees, including the MPDs. Patient Care Procedures (operational guidelines) address: (1) access to prehospital EMS care, (2) Identification of major trauma patients, (3) system activation, (4) identification of the level of emergency medical personnel to be dispatched to the scene of major trauma and to transport major trauma, (5) prehospital response times, (6) activation of air ambulance service for field response to major trauma, (7) transport of patients outside of base area, (8) transport of patients to designated trauma centers, (9) designated trauma center diversion, (10) activation of hospital trauma resuscitation team, and (11) inter-facility transfer of major trauma patients.

Definitive Care

Definitive Care is provided by nine hospitals/clinics in the region that are committed to meeting the standards of designated trauma services. The Regional Council provides a forum for networking between the facilities through a Trauma Facility/Hospital and QI committees. The two groups work closely with the Executive Board and the Regional Manager on system planning and implementation and advise the Council on hospital trauma training needs, the number and levels of designated trauma services needed in the region, quality improvement models, and other issues. Recommendations are made to the Council. And even with direct budget cuts to the Region's contract with DOH, the Council will continue to provide grants to hospital and clinic nurses and physicians for adult and pediatric trauma education.

Evaluation

Evaluation of regional system design and patient care has begun using a quality improvement model that is data driven. The North Region system is complete and some data is being used to evaluate the system. The North Region has re-directed its efforts to have all prehospital transport agencies collect data and report to receiving hospitals that, in turn, submit data to DOH through their normal process. The North Region has implemented a prehospital non-transport data collection program to enhance data collection using a data short form and banding all patients. The data short form is used to pass through initial data points to reporting trauma facilities as the systems goes through a reporting transition period. The collected and submitted data will be used to determine the need for system modification. A regional quality improvement program that includes agency, county, and regional components analyzes data and makes recommendations to the Regional Council.

The North Region EMS & Trauma Care Council is committed to the development, implementation, and maintenance of the systematic approach to EMS and trauma patient care.

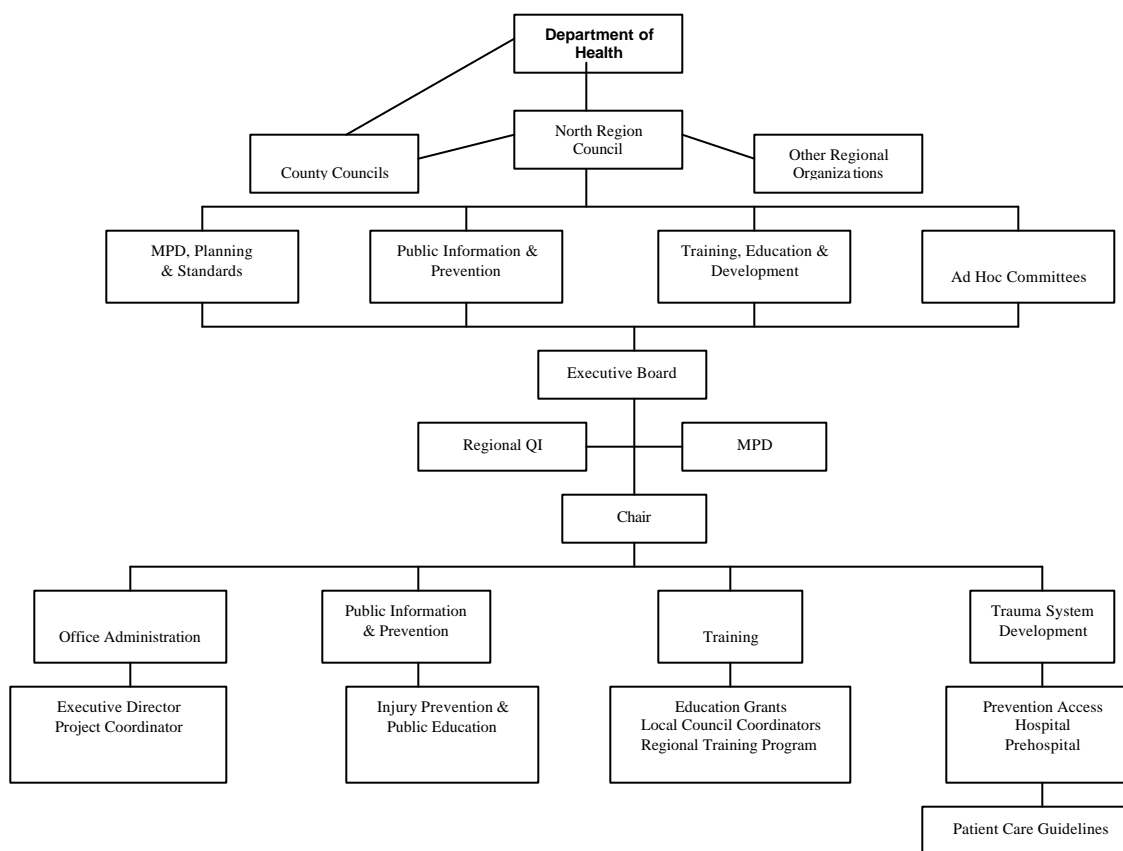
ADMINISTRATIVE COMPONENTS

I. REGIONAL COUNCIL

Leadership

The North Region is empowered by legislative authority (RCW 70.168.010-70.168.900) and Department of Health Administrative Code (WAC 246.976) to plan, develop, and administer the EMS and trauma care system in the five counties that make up the Region. It is one of eight regional councils statewide composed of local providers and consumer representatives, funded primarily by the Washington State Department of Health (DOH).

This two-year plan represents the efforts of the Council to design a model EMS and trauma care system for the North Region. A fully functional trauma system addresses education, public information and injury prevention, rapid communications, prehospital care, inpatient trauma care, rehabilitation, a trauma registry, and a quality improvement program. Data collection and analysis from prehospital, hospital, state, federal, and program sources will be used to help the Region prepare and implement agency and facility planning and determination of minimum and maximum numbers for designation purposes. This plan includes regional system progress and accomplishments and establishes goals and strategies for further system improvement.



Regional administration includes regional leadership, (Refer to Table 1 — Regional Council Leadership) system implementation and maintenance, legislative activities, and financial planning. The Regional Council carries out regional statutory requirements and sets the direction for the regional system. The Executive Director works directly with the Council's Executive Board and Council membership, DOH, and citizen and provider groups. The Executive Director also facilitates the Council's implementation and maintenance strategies. State grant funding supports the regional work and the Council allocates available funds for system development, implementation, and maintenance. North Region communicates and collaborates with numerous parties to form strong interrelationships. The following groups compose the network of support for the North Region: consumers, volunteers, private ambulances, local EMS provider agencies, paid and volunteer prehospital EMS providers, fire departments/districts, local government agencies, state agencies, federal agencies, educational agencies and institutions, elected officials, legislators, clinics, nurses, physicians, hospitals, tourists, private citizens, area residents, Native American tribes/councils, county EMS councils, public or private organizations, professional and consumer groups, medical program directors, rehabilitation centers, law enforcement, fire chiefs and the military.

TABLE 1

Regional Council Leadership		
Name	Council Position	County
Deb Ayrs	Prehospital Rep.	Snohomish
John Bird	Prehospital Rep.	Skagit
T. J. Lamont	Elected Official Rep.	Island
Daniel Dempsey	Hospital Rep.	Skagit
Geri Chumley	Consumer Rep.	Whatcom
David Froula	Elected Official Rep.	San Juan
David Hammers	Prehospital Rep.	Whatcom
Robert Hamstra	At-Large Rep.	Whatcom
Cary Kaufman, MD	Hospital	Whatcom
Weyshaw D. Koons	Healthcare Facility Rep.	San Juan
Rick Kowsky	Ambulance Assoc. Rep.	Whatcom
Dan Harju	At-Large Rep.	Skagit
Paul Gonzales	Law Enforcement	Skagit
Becky Martin	Hospital Council Rep.	Snohomish
Roger Meyers	Prehospital Rep.	Island
Marie Meyers	Healthcare Facility Rep.	Island
Jack Robinson	At-Large Rep.	Snohomish
Anthony J. Roon, MD	Healthcare Facility Rep.	Snohomish
Jack Phillips	Elected Official Rep.	Snohomish
Lainey Volk	At-Large Rep.	San Juan
Larry Wall	At-Large Rep.	Island
Frank Wilson	Prehospital Rep.	San Juan
Paul Zaveruha, MD	MPD Rep.	Island
Steve Hopkins	Elected Official Rep.	San Juan

Council Operations

Council members fill positions representing local providers and consumers from areas as metropolitan as Everett and as remote as the wilderness of the Cascade Mountain range, which runs through Snohomish, Skagit, and Whatcom Counties. Council positions are listed in Table 2: North Region EMS Council Structure. A balance of hospital and prehospital trauma care and emergency medical service providers, local elected officials, consumers, local law enforcement representative, and local government agencies involved in the delivery of EMS & Trauma Care Council is maintained. Members are recommended to the department by county councils or respective agencies and appointed by the Secretary of the Department of Health for three-year terms.

TABLE 2

Council Position	Total # of Positions
Healthcare Facility Representatives	5
Prehospital Representatives	5
At-Large Representatives	5
Consumer Representatives	5
Elected Official Representative	5
Medical Program Director Representative	1
Hospital Council Representative	1
Law Enforcement Representative	1
Ambulance Association Representative	1
Council Total	29

There are five committees within the Council: Education, Prehospital, MPD, Quality Improvement, and Trauma Facility/Hospital. Regional Council members, who are appointed by the Council Chairperson, chair the committees. Each committee has a mission consistent with the overall Council mission but specific to its focus area. System planning occurs in committee and the Council body acts on recommendations. Membership on standing committees is open to any interested provider/citizen in the region.

North Region EMS is the lead agency for the Skagit County SAFE KIDS Chapter and through regional partners, supports Snohomish County SAFE KIDS Coalition. SAFE KIDS is comprised of individuals dedicated to reducing the incidence of unintentional childhood injuries with children 14 years-of-age and younger. SAFE KIDS has a grassroots approach and provides an invaluable vehicle for information sharing, project development, and implementation on a regional level. North Region EMS is in the process of bringing SAFE KIDS to Island, San Juan, and Whatcom Counties to help reduce the inefficient duplication of injury prevention services and provide a dependable injury prevention network. SAFE KIDS has opportunities to receive grant funds to support training, education, and injury prevention projects, such as, Car Seat Check-up Clinics, Child Passenger Safety Instructor Training, and “Kids Walk-to-School” Day.

Administrative support for Council operations is provided through the Regional Manager (1.0 FTE) and a Projects Coordinator (1.0 FTE). Staff manages the day-to-day operations and activities of the Council including administrating the state contract. The Council Chair, Regional Manager, and Projects Coordinator provide leadership for system planning and is the designated representative of the Council and the contact person with DOH for all contract matters.

The local county EMS Councils (Table 3) in each of the five counties in the region work closely with the Regional Council to assure local needs are addressed in regional planning. Leadership from local councils is well represented at regional council and committee meetings. Local county EMS Council members who serve on the Regional Council represent regional issues to their Councils, local agencies, and local government and bring local issues to the Regional Council membership. Local Council histories are available through the North Region EMS office.

TABLE 3

County EMS Councils		
Whidbey Island EMS Council	Whidbey General Hospital P.O. Box 400 Coupeville, WA 98239	Phone: 360-678-5151 Fax: 360-678-7623
San Juan County EMS Council	Route 2, Box 3432 Lopez, WA 98261	Phone: 360-468-2577 Fax: 360-468-3576
Skagit EMS Council	2911 East College Way, Suite C Mount Vernon, WA 98273	Phone: 360-428-3230 Fax: 360-428-3235
Snohomish County EMS Council	1805 Hewitt Avenue Everett, WA 98201	Phone: 425-259-4172 Fax: 425-259-6283
Whatcom County EMS Council	P.O. Box 5125 Bellingham, WA 98227	Phone: 360-715-6418 Fax: 360-715-6406

II. SYSTEM DEVELOPMENT

EMS/Trauma System Plan Development, Maintenance, and Evaluation

The North Region Council utilizes various methods of needs assessments. Representatives from each of the five local EMS councils complete prehospital planning. This group surveys and allocates appropriate resources for prehospital training needs. Hospital education is accomplished through several trauma facility/hospital committee meetings at which the trauma facility coordinators survey facility needs, select courses, and set up a nine-month training schedule.

Available local and state data resources are utilized: State Trauma Registry, comprehensive Hospital Abstract Reporting System (CHARS), coroner and death certificate reports, run data from prehospital providers and data from county EMS Councils. Other local, state and national data sources are accessed whenever applicable and available.

The Executive Board and Committee Chairs lead regional plan development. At the annual regional planning retreat, goals, strategies, and time lines are determined and responsibility for overseeing their achievement is assigned to the appropriate committee. An internal line-item budget is also developed that reflects those same priorities. The planning process allows participants to identify and develop common ground on which a solid foundation can be laid. It also provides a record of agreement. All of the planning exercises culminate in the effort to develop effective organizational vision and goals.

The planning process used by the Council:

1. Initiate/revisit and agree on a strategic planning process.
2. Identify organizational mandates.
3. Clarify organizational mission and values.
4. Assess the external environment (opportunities and threats).
5. Assess the internal environment (strengths and weaknesses).
6. Identify the strategic issues facing the organization.
7. Formulate strategies to manage the issues.
8. Establish/renew/refine an effective organizational vision for the future.

Goals for each committee are determined at the annual planning retreat. All committee outcomes are subject to the review and approval of the North Region Council. Implementation of prehospital planning is accomplished through grants with the county EMS councils in compliance with the regional guidelines for minimum standards of care developed with the assistance and approval of the county MPDs. Plans for definitive care are implemented through seven hospitals committed to trauma or trauma rehabilitation designation. The North Region encourages local provider comments and participation in regional council activities.

Strong leadership skills and committee membership participation is crucial since the administrative structure of the council assigns leadership tasks to the working committees, regional manager and projects coordinator. The roles and responsibilities of each committee are as follows:

MPD Committee: Medical Program Director from each county serves on this committee. They provide medical input on Patient Care Procedures, clinical training needs and certification and licensing needs.

Education Committee: Promotion of on-site prehospital basic certification, continuing medical education, trauma care instruction, instructor training—directing regional funds through the county EMS council. On-site or centrally located nurse and physician trauma training and instructor training, especially to meet designation and verification requirements.

Prehospital Committee: Is charged with collaborating with trauma facilities to determine data collection and submission needs. Minimum and maximum prehospital numbers are recommended to the Executive Board and General Council.

Trauma Facility-Hospital Committee: Operates under the leadership of Trauma Facility Coordinators with administrative support provided by the Council. Member hospitals share resources to provide accredited emergency nursing education courses. Non-designated facilities are encouraged to attend committee meetings and to become designated.

Injury Prevention and Public Education Coalition: Promotion of prevention programs through a mini grant process, focusing regional funds on prehospital and hospital providers. Public relations materials and activities to educate varied audiences such as EMS and trauma care providers, the public, government officials, and media. The Council's Projects Coordinator supports/administers SAFE KIDS Coalitions.

Quality Improvement Forum: Under the leadership of designated trauma service facilities with administrative support provided by the regional projects coordinator and manager. Performs confidential trauma case study, education, and data analysis. Mission is to optimize the quality of care and outcome for all EMS and trauma patients in the North Region, which includes preventing injuring occurrence and reducing injury severity and deaths.

Annual review and evaluation of the regional Trauma Plan is part of the Council's contractual agreement with DOH. The review process includes program review within the appropriate committees as well as by the full Council. An annual financial review is conducted by an independent Certified Public Accountant. The North Region QI Committee recommends issues to the Council for discussion, evaluation, provider training/education or other appropriate action. The QI Committee plays a key role in quality assurance as specified in the regional Patient Care Procedures. (Appendix A)

The Executive Board recommends regional patient care guidelines to be developed or revised. The County MPDs review the regional guidelines before they are recommended to the full Council. With Council approval, regional guidelines are submitted to DOH for comment and approval. Guidelines are distributed to local providers.

Local county EMS councils and MPDs may develop County Operating Procedures (COPs) that specify patient care procedure(s) with a standard higher than the minimum required in the regional PCPs. These are submitted to the regional Council for review in accordance with the regional PCPs. After council and DOH approval, they are appended to regional PCPs. All counties in the North Region are using the regional PCPs.

Council members and staff interact with other system providers in local, state, regional, and national settings. Primary links are through the Governor's EMS and Trauma Steering Committee and its technical advisory committees, Regional Advisory Committee, Licensing and Certification Committee, EMS Education Committee, county EMS councils, and regional EMS/Trauma Care Councils.

Working relationships are maintained with institutions such Harborview Medical Center and Injury Prevention & Research Center (Seattle), Children's Hospital and Regional Medical Center (Seattle), National Highway Safety and Traffic Administration (Region X includes Washington, Oregon, Idaho and Alaska), Washington Traffic Safety Commission, and Native American tribes/councils.

There are seven Native American reservations in the region. (Refer to Table 4) All of the reservations receive prehospital care through the local fire department first response and transport service by the associated county transport agencies. None of the reservations have their own EMS services or hospitals. Hospital service is provided at the closest hospital in all cases. The reservations have varying levels of non-emergent clinic medical care. The region does not identify the clinics as potential designated entities. The Indian Nations and reservation locations are as follows:

TABLE 4

North Region Native American Reservations 2000			
Whatcom County	Nooksack Tribe	Lummi Tribe	
Skagit County	Swinomish Tribe	Upper Skagit Tribe	
Snohomish County	Tulalip Tribe	Sauk-Suiattle Tribe	Stillaguamish Tribe

Mutual aid agreements within and surrounding the North Region have been in place for several years. The nature of these agreements varies from county to county, and sometimes from fire district to fire district. Many are not formally documented. There is a mutual agreement among all MPDs in the North Region that personnel responding to calls or transporting through service areas other than their own will use the protocols of their origination. In addition, fire mobilization has extended mutual aid agreements to emergency medical care.

North Region EMS within the Trauma System planning has in the past and continues to examine the hazards present in the North Region. It is clear that an event of regional proportions or a local large scale MCI is a distinct possibility. Such an event could easily and

quickly overwhelm the capability of local emergency resources to deal with the life and death demands of many persons in peril.

It is a long held consensus of North Region EMS that there is a clear and immediate need for region-wide planning for response to a major emergency to make the best possible use of all available resources in the North Region on a cooperative basis.

It is recognized that planning among the diverse agencies and organizations that might be involved in such a large-scale incident is an enormous undertaking with many possible complications, and that effective implementation would require involving a wide range of local and regional interests.

County emergency management plans, consistent with the state CEMP under the provisions of Chapter 38.52 of the Revised Code of Washington, are a logical and appropriate place to include MI plans. The elements associated with an MCI response (i.e., resource management, multi-agency, coordination, cost tracking, etc.) are (or should be) an integral part of local plans. Emergency management representatives confirm that the emergency management linkages are essential for the plan to work at any level. There is specific language in the law that drives emergency plans. The authority for emergency planning already exists within county emergency management. Standardization between counties may be simplified by the development of a template plan.

The Washington State Fire Mobilization plan is recognized as a possible model for a region MCI plan. The Fire Mobilization plan may be adaptable on a statewide basis to include EMS considerations, one of the original goals of the project. One of the inherent shortcomings of the Fire Mobilization plan is the time frame for mobilization. It is generally considered to be 48 hours for the Mobilization plan to put resources on the scene. This is far too long to be of use in a Regional MCI. The “zone response” or the “task force” concept associated with jurisdictions in Snohomish and King County could be easily adapted to a North Region Rapid Response EMS Task Force concept that would respond within one hour.

North Region EMS has and will continue to facilitate planning meetings within each local county to develop the county’s EMS Regional Rapid Response Task Forces, which will interface with other Regional Rapid Response Task Forces. Two of the principle objectives of the RRR Task Force would be pre-planning to enable mobilization within one hour. The second objective is that all resources would be mobilized under existing inter-county mutual aid agreements.

Local government ordinances

No new ordinances have been established in the North Region. However, existing ordinances are in place for Skagit, Snohomish, and Whatcom counties. Skagit Emergency Medical Services Council has been given the authority to coordinate certain emergency medical care and transportation services for Skagit County. In Snohomish County, the local ordinance establishes standards and training to regulate ambulance and certain emergency first aid services and transportation. In Whatcom County, the city has designated the Bellingham Fire Department as the agency responsible for the delivery of prehospital and post-hospital emergency transport and care for the citizens within the city limits. (Refer to Appendix H for complete ordinances)

Local System Development Costs

Office of Emergency Medical and Trauma Prevention, Washington State Department of Health contracts with North Region EMS in the amount of \$213,554.00 annually for the development, support, and future needs of a regional system. This is down from the previous biennium (FY01-02) of \$250,429.00. The contract designates specific funding amounts for provider education, system development, injury prevention, and local council support. Medical Program Director (MPD) support is provided directly from DOH. In addition, the Council seeks grant funding for prioritized projects. Plus, the annual Tulip Pedal bike ride fund-raiser provides funds for injury prevention. Each year the Council undergoes a thorough financial review by a Certified Public Accountant, and the financial statements are available for review.

Regional council program expenses are estimated at \$427,108.00 for FY02-03. Program allocations are outlined in Table 5, North Region EMS Estimated Budget for FY02-03. The Council develops and implements a yearly line-item budget to specify program priorities and administrative costs.

TABLE 5

North Region EMS Estimated Budget for FY02-03 (2-year)			
	DOH Contract Revenue	Other Revenue	Total Revenue
REGIONAL QUALITY IMPROVEMENT	\$83,908		\$83,908
PATIENT CAE PROCEDURES	\$10,000		\$10,000
DESIGNATED TRAUMA SERVICES	\$4,000		\$4,000
LOCAL COUNCIL SUPPORT	\$4,000		\$4,000
INJURY PREVENTION & PUBLIC EDUCATION	\$106,000	\$4,000	\$110,000
HUMAN RESOURCES	\$219,200		\$219,200
TOTAL PROJECTED BUDGET	\$427,108	\$4,000	\$431,108

Notes: Biennium estimates are based on budget allocations for FY02 multiplied by two years.

* Injury Prevention: Revenue derived from grants and fundraiser

System operational costs for FY02-03 are estimated at nearly 100 million dollars in the North Region (Refer to Table 6). The estimate includes DOH contract funds, Council-generated revenue, county EMS levies, DOH funding to support the regional quality assurance program and in-kind prehospital service and training. It also includes a portion of the Trauma Service Funds that is distributed through participation grants to prehospital providers, hospitals and rehabilitation services. The estimate does not include the costs of: 1) infrastructure and administrative costs of seeking or maintaining designation or verification; 2) actual revenue and costs of trauma patient care (proprietary data of providing agencies); 3) the impact of distributions through the Trauma Care Service Funding Act through hospital Medicaid, MAA and physicians pool, prehospital needs grants and rehab pool, and 4) the impact of fee-for-service as a funding mechanism for public and private EMS agencies.

The true cost of operating the regional trauma system is difficult to determine. A comprehensive study is needed. It would be appropriate for DOH and/or regional groups to persuade public and private stakeholders to share financial and staffing data, develop a reporting format that ensures data confidentiality and provide technical expertise for system data analysis. The North Region will continue to research and report funding-related information as it becomes available for all funding mechanisms and as the technical expertise and resources of the Council and staff allows.

The Regional Council continues to make projections for annual regional costs for providing all education necessary for meeting prehospital trauma verification requirements and some required hospital staff trauma education. Projections are also made for annual costs for trauma registry data collection and entry for prehospital agencies and hospitals as a requirement of the trauma system. It is imperative that Regional funding from the state remains available for the Regional Council to meet its legislated system requirements. Two counties have a countywide levy, which supports their local EMS Council. Some constant source of funding is needed to support full time offices if local councils are to be actively involved in the complex process of developing an EMS and Trauma Care System.

Prevention continues to be severely under-funded through state contract funding. The North Region is making up some of the funding deficiencies by holding an annual fund-raiser. Proceeds from the Tulip Pedal Bike Ride are used to support regional injury prevention projects.

The following table indicating system and local costs. In kind service is estimated based on numbers of volunteers providers throughout the region. Trauma System categories are determined based on DOH Trauma Fund Reimbursement data for State biennium 99-01 (most recently completed biennium). Trauma system reimbursements represent estimated under-reimbursed or unreimbursed costs of system development, maintenance, and patient care.

TABLE 6

**Summary of Estimated System & Local Implementation Costs in the North Region, FY02-03
(2-Year)**

Source of Funds	Revenue	Trauma Service Funds	In-Kind	Total
North Region EMS Council	\$431,108		\$2,000,000	\$2,431,108
County EMS Levies	\$50,000,000			\$50,000,000
Trauma System - Prehospital		\$211,750		\$211,750
Trauma System – Hospital		\$1,309,938		\$1,309,938
Trauma System – Rehab		\$17,500		\$17,500
Trauma System – Physician		\$98,000		\$98,000
Estimated Totals	\$50,431,108	\$1,637,188	\$2,000,000	\$54,068,296

SYSTEM OPERATION COMPONENTS

INJURY PREVENTION/PUBLIC INFORMATION EDUCATION

North Region EMS continues to invest time, energy, and funding to educate EMS providers, the public and elected officials about the existing and expanding EMS and trauma care system which includes ongoing injury prevention efforts, often thought of as “the only cure for trauma.” The Region is on-line with a website targeted at providers and the public (**northregionems.com**).

Also, the council uses several other avenues to inform and educate, such as promotional and educational videos that continue to be a successful tool to inform providers and the general public. Lifetime, The Golden Hour and A Day in the Life of a Paramedic are videos, which give an overview of the regional and State EMS system. The videos include injury prevention, system components, and citizen education. These videos are available at North Region office. A regional brochure highlights quality patient care, injury prevention programs, EMS system, and the EMS team. The region publishes a newsletter targeted to prehospital and hospital providers, elected officials and the public. A regional display board is used throughout the region at various events to showcase system development. Media contacts are solid and news releases are resulting in articles in local newspapers and airtime on radio and TV. Additionally, council members are available to speak on system development to civic groups. The Executive Director and Projects Coordinator give presentations to civic, parent, school, and other groups, re-enforcing injury prevention and the EMS system. Injury prevention awareness and EMS system education is promoted on the regional display board at public events and the legislature. The RED BOOK, a regional resource handbook is distributed to elected officials (Refer to Appendix I).

CURRENT STATUS

North Region EMS supports ongoing injury prevention programs and multi-agencies and individuals throughout the Region volunteer their time and resources to help ensure the programs are successful. North Region’s overall goal is to reduce preventable and premature death and disability due to traumatic injury.

SAFE KIDS – Reducing the Incidence of Unintentional Injury

National *SAFE KIDS* Campaign focuses on preventing unintentional childhood injury and saving the lives of young children 14 years old and under. *SAFE KIDS* is a grass roots and collaborative effort shared amongst individuals and organizations that are committed to reducing the incidence of preventable childhood injuries. North Region EMS recognizes the significance of collaboration and reducing inefficient duplication of injury prevention programs in the Region.

Goal:	Promote and implement injury prevention activities throughout the Region.
Objective:	With regional partners implement SAFE KIDS Coalitions in Island, San Juan, Skagit, and Whatcom Counties.
Strategy:	By June 30, 2002 help support the implementation of <i>SAFE KIDS</i> in regional counties and continue to support existing, Snohomish County <i>SAFE KIDS</i> Coalition.

In Skagit County *SAFE KIDS* is in Phase-I of coalition building and is gearing up for the “Kick Off” that will publicly introduce itself and share its mission to the community. North Region EMS is the lead agency for *SAFE KIDS* in Skagit County.

Protect Your Brain Campaign – Reduce Serious Head Injuries and Save Lives

The correct fit and use of bicycle helmets plays a critical role in reducing bicycle-related head injury deaths and serious head injuries. North Region EMS helps support EMS providers, trauma facilities and local prevention programs with bicycle helmets, prevention helmet stickers, educational pamphlets and helmet fitting instruction pamphlets, video, and / or one-on-one instructions. The campaign reaches youth throughout the Region by providing helmets for youth that could not otherwise acquire one. *SAFE KIDS* accepts donations for each helmet that is custom-fit by trained personnel and the proceeds go back into the “Protect Your Brain” Campaign to purchase helmets. Participants include prehospital agencies, trauma facilities, city police departments, county sheriff departments, health districts, schools (public & private), Washington State Patrols, and others.

- Goal: Continue distributing helmets to regional partners that include EMS agencies, hospitals, schools, and other organizations. Helmet fitting videos are available to train personnel, or North Region EMS will train personnel one-on-one.
- Objective: The campaign will start to purchase all sport, ski, and equestrian helmets to promote helmet use amongst youth by providing a variety of helmets.
- Strategy: By June 30, 2002 North Region EMS will distribute approximately 2000 helmets throughout the Region by regional partners and *SAFE KIDS*.

Buckle Up Baby Safety Car Seat Program – Reduce Fatality Risk by 71%

To reduce fatality risk by 71% and serious injury risk by 67%, car safety seats must be correctly installed and the child must be correctly restrained in the seat. While car seats are being used, there is a high misuse of car safety seats being used incorrectly, by 90%. Buckle Up Baby Safety Car Seat program promotes and educates the correct usage of car safety seats to include, booster seats. EMS providers, trauma facilities, and individuals are encouraged to participate in the North Region EMS Injury Prevention Mini-Grant process that is offered annually in the early Spring.

SAFE KIDS Coalitions, local county Child Passenger Safety Teams, organizations, and committed individuals are dedicated to ensuring children are properly restrained by offering free inspections and making car safety seats available for families needing assistance.

- Goal: Promote and implement injury prevention activities throughout the Region.
- Objective: Educate and train EMS personnel, car dealerships, police, fire, and Child Passenger Safety advocates to properly install car safety seats to help reduce fatality risk by 71%.
- Strategy: By June 30, 2002 North Region EMS will provide a Child Passenger Safety (CPS) Course for CPS advocates throughout the Region.

North Region EMS Injury Prevention Mini-Grants – Support IP Programs

North Region EMS offers mini-grants to support continuing injury prevention programs and provide seed money for new injury prevention programs being developed and implemented to reduce the incidence of injury. The mini-grants are made available through a formal application process in the early Spring. Mini-grant award announcements usually are announced in July and generally no later than September. Recipients of the mini-grants have until the following June to spend the funds.

- Goal: Promote and implement injury prevention activities throughout the Region.
- Objective: Promote and support injury prevention programs throughout the five counties by offering seed money, or funds based on submitted application criteria. Usually awards are from \$500 to \$1500 and priority is given to prehospital and hospital providers.
- Strategy: Announce North Region EMS Mini-Grant application process and award funds no later than September.

Drinking Drivers Are Out There – Raise Awareness About DUI

- Goal: Promote and implement injury prevention activities throughout the Region.
- Objective: With regional partners, implement “Drinking Drivers Are Out There” signage to raise of the driving public about drinking and driving and in so doing reduce it.
- Strategy: By December 31, 2001 help support the posting of DUI signage on regional highways.

STRENGTHS AND WEAKNESSES

The strength behind reducing preventable and premature death and disability due to traumatic injuries comes from the endless hours of injury prevention participants promoting injury prevention. Most of the participants are volunteers. The collaboration of injury prevention participants is effective and promotes prevention of injury and identification of environmental factors known to cause injury, which is an integral part of the regional trauma system. In support of this injury prevention network, North Region EMS supports multiple local community injury prevention and public information programs.

- Goal: Continue to work with current injury prevention partners throughout the Region, establishing a strong injury prevention network. Please refer to TABLE 7.
- Objective: Educate and inform injury prevention participants of the continuous need of collaborative efforts to reduce the Region’s overall goal in reducing preventable and premature death and disability due to traumatic injury.
- Strategy: By June 30 2002, recruit and maintain injury prevention participants by supporting programs throughout the North Region Injury Prevention Mini-Grants and helping to develop and implement SAFE KIDS groups in Island, San Juan, Skagit, and Whatcom Counties and continue to support Snohomish County *SAFE KIDS* Coalition.

The North Region EMS will rely on current DOH funding and Tulip Pedal proceeds to support local injury prevention efforts. Additional funding may become available through grant writing performed through the regional office. Sources such as the Washington Traffic Safety Commission have traditionally been excellent avenues for specific project funding. Also, the Region expects to receive additional bicycle helmets, car, and booster seats through grant funds from this agency. *SAFE KIDS* Coalitions may write for grants requesting funds to support and promote multi-injury prevention programs and support fundraising opportunities.

TABLE 7

PREVENTION PARTNERS	
Name	Title
Kathy Wigal	AHS Prenatal Care Center
Bob Berschauer	American Medical Response
Tom Wisausky	American Red Cross, Whidbey Chapter, NAS Whidbey Island
Rick Davis, Chief	Anacortes Fire Department
AAA of Washington	Bicycle / Pedestrian Safety
Jan Dahl, RN and Dr. James	Bicycle Safety Coalition, Whatcom County Health Department
Colleen Keefe	Bicycle/Pedestrian Safety, Island County Health Department
Sheriff Cumming	Bicycle/Pedestrian Safety, San Juan Island Sheriff
Frank Gibson	Bicycle/Pedestrian Safety, Everett Police Department
Lucinda Rogers	Bicycle/Pedestrian Safety, AAA of Washington
Harold Smith	Cascade Valley Hospital Ambulance
Gloria Chase	Child Safety Seat Program, Cascade Valley Hospital
Liz Fowler	Child Safety Seat Program, Snohomish County Human Resources
Sally McCorkle	Child Safety Seat Program, Stevens Memorial Hospital
Martha Dankers	Child Safety Seat Program, Valley General Hospital Guild

PREVENTION PARTNERS	
Name	Title
Laurel Cook	Child Safety Seat Program
Barbara Reavy	Child Safety Seat Program, Lummi Island Health Center
Liz Davis	Coalition for Child Advocacy
Linda Wright	Director of Education, Affiliated Health Services
Robin Paster, Coordinator	DWI Task Force
Whidbey General Hospital	Injury Prevention & Safety
Mary Valentine	Injury Prevention & Safety, Island Hospital
Shirley Empey	Injury Prevention & Safety, Cascade Valley Hospital
Kathy Chancellor	Injury Prevention & Safety, Valley General Hospital
St. Joseph Hospital	Injury Prevention & Safety
American Red Cross, Skagit Valley Chapter	Injury Prevention Specialist
Marysville Branch YMCA	Injury Prevention Specialist
Susan Wagner	Injury Prevention Specialist, Island County Health Department
Whidbey Island YMCA	Injury Prevention Specialist
Skagit County YMCA	Injury Prevention Specialist, Gary O'Neil
Southeast Branch YMCA	Injury Prevention Specialist
Snohomish County YMCA	Injury Prevention Specialist
Lynden YMCA	Injury Prevention Specialist
Whatcom County YMCA	Injury Prevention Specialist
Whatcom County YWCA	Injury Prevention Specialists
J. Haider, Chief	Island County Fire Protection District
Officer Joie Worthen	Lake Stevens Police Department
	MADD
	Med-Flight
Deb Ayrs	Medic 7
Nina Boudinot	Mount Vernon School District
Child Safety Seat Program	Providence General Medical Center
	Risk Watch
	San Juan Health Department
Vicki Walton	Snohomish County Health Dept.
Stacey Sigvartsen, MSO	Snohomish County Search & Rescue
Don McKeehen, Program Director	Traffic Safety Program Coordinator, Skagit County Public Works
Western Washington University	Violence Reduction Program, Office of Student Life/Old Main
Trooper Gary D. Defolo	Washington State Patrol
	Aero-Skagit Ambulance
	Affiliated Health Services
Jack Phillips	American Medical Response
Rich Curtis, Chief	Anacortes Fire Department
John Karabias, Medical Program Supervisor	Arco Cherry Point Refinery
Dean Olsen, Chief	Arlington Fire Department
	Bellingham Fire Department
Rick Auston, Chief	Blaine Fire Department
Rick Kowsky	Cascade Ambulance
Harold Smith	Cascade Valley Hospital
Rich Philips, Chief	Concrete Fire Department
Amy Cantrell	Darrington Volunteer Ambulance
Kevin Taylor, Chief	Edmonds Fire Department
Michael Schuhow, MSO	Everett Federal Fire
Jack Robinson	Everett Fire Department
Island Air	Friday Harbor Airport
Bill Lambe, E.R.T. Coordinator	Georgia Pacific Emergency Response Team
	Hamilton Fire Department
John Baisden, EMT-D	Hexcell Corp.
Kerri Burnside	Intalco Aluminum Corporation
Scott Koehler, Chief	Island County FPD # 1
Michael Lamar, Chief	Island County FPD # 2, North Division
Marvin Koom, Chief	Island County FPD # 2, South Division
Don Smith, Chief	Island County FPD # 3
Joseph Biller, Chief	Island County FPD # 5
	La Conner Fire Dept.
Don Fowler, Chief	Langley Fire Department
Rex Meyers, II	Life Rescue
	Lyman Fire Department
Robert Neil, Chief	Lynden Fire Department
Gary Olson, MSO	Lynnwood Fire Department
Terry Matsumura, MSO	Marysville Fire Department
Stu Plotnick	Med-Flight Coordinator

PREVENTION PARTNERS	
Name	Title
Derik Millich, MSO	Monroe Fire Department
Patrick Vollandt, Chief	Mountlake Terrace Fire Department
	Mt. Baker Ski Area
Troy Elmore, MSO	Mukilteo Fire Department
Mark Soptich, Chief	Oak Harbor Fire Department
Thomas Ashfield, Chief	Port of Bellingham
Roz Winters	Rural Metro
Gary Bennett, Chief	San Juan County FPD # 2
Glen Potter, Chief	San Juan County FPD # 3
Larry Schultz, Chief	San Juan County FPD # 4
Tim Nelson, Chief	San Juan County FPD # 5
Frank Wilson, EMS	San Juan County Hospital District # 1
Dean Klinger, Chief	Sedro-Woolley Fire Department
Dan Cain	Skagit County Fire Marshal
Dennis Hofstad, Chief	Skagit County FPD # 1
Skip Ritchey, Chief	Skagit County FPD # 2
	Skagit County FPD # 3
	Skagit County FPD # 3
	Skagit County FPD # 4
	Skagit County FPD # 5
John Pauls, Chief	Skagit County FPD # 6
Scott Lemke, Chief	Skagit County FPD # 7
Andy Hawkings, Chief	Skagit County FPD # 8
	Skagit County FPD # 9
	Skagit County FPD #10
	Skagit County FPD #11
	Skagit County FPD #13
Dan Costanti, Chief	Skagit County FPD #14
Wayne Johnson, Chief	Skagit County FPD #15
Brad Warfield, Chief	Skagit County FPD #16
Carl Meinzinger, Chief	Skagit County FPD #17
Ben Clark, Chief	Skagit County FPD #19
Roger Babcock, Chief	Skagit County FPD #19
	Skagit County Search and Rescue
Mike Bales, Chief	Snohomish County Airport Fire
John Hinchcliffe, MSP	Snohomish County FPD # 4
Merlin Halverson, MSO	Snohomish County FPD # 5
Rick Rauma, MSO	Snohomish County FPD # 7
Dave Lingenfelter, MSO	Snohomish County FPD # 8
Dean Smullin, MSO	Snohomish County FPD #1-11
Ron Barton, Chief	Snohomish County FPD #14
Tom Cohee, MSO	Snohomish County FPD #15
Jackie Inman, MSO	Snohomish County FPD #16
Richard Hjelle, Chief	Snohomish County FPD #17
Dale Fulfs, Chief	Snohomish County FPD #18
Keith Strotz, Chief	Snohomish County FPD #19
Darryl Neuhoﬀ, Chief	Snohomish County FPD #20
Lon Langdon, Chief	Snohomish County FPD #21
Travis Hots, Chief	Snohomish County FPD #22
Robert Anderson, MSO	Snohomish County FPD #23
Allen Merritt, Chief	Snohomish County FPD #25
Eric Andrews, MSO	Snohomish County FPD #26
Michael D. Worthy	Snohomish County FPD #27
Tod Kiel, Chief	Snohomish County FPD #28
Stacey Sigvartsen	Snohomish County Search and Rescue
Ben Glassett	St. Joseph Hospital Security
	Stanwood Fire Department
	Tosco
	United General Hospital
BMC Potvin	US Coast Guard
Joseph Haider, Chief	US Naval Air Station, Whidbey Island
Linda Howson	Whatcom Community College
Jerry McDowell, Chief	Whatcom County FPD # 1
Tom Fields, Chief	Whatcom County FPD # 2
Dean Whitney, Chief	Whatcom County FPD # 3
Don Chumley, Chief	Whatcom County FPD # 4
Mike Holliday, Division Chief	Whatcom County FPD # 5

PREVENTION PARTNERS	
Name	Title
Ray Chenvert, Chief	Whatcom County FPD # 6
Gary Russell, Chief	Whatcom County FPD # 7
Gary Crawford, Chief	Whatcom County FPD # 8
Fred Wefer, Chief	Whatcom County FPD # 9
Don Jenkins, Chief	Whatcom County FPD #10
Jane Phillips, Training Officer	Whatcom County FPD #11
David England, Chief	Whatcom County FPD #13
Denise Christensen, Chief	Whatcom County FPD #14
Jim Phy, Chief	Whatcom County FPD #14
Charles Patterson, Chief	Whatcom County FPD #14
John Stewart, Chief	Whatcom County FPD #16
Jim Petrie, Chief	Whatcom County FPD #17
George Henderson, Chief	Whatcom County FPD #18
Ben Thompson, Chief	Whatcom County FPD #19
	Whatcom County Parks Dept.
Linda Bergen, Supervisor	WWU – Athletic Training Facility

SAFE KIDS – Reducing the Incidence of Unintentional Injury

Although the members are one of the tremendous strengths of *SAFE KIDS*, continuously *SAFE KIDS* needs recruitment of new members and provide positive momentum of projects and goals for current members. *SAFE KIDS* relies on the manpower of the members to execute programs and events, such as car seat clinics. Success comes from the members and the structure of the program.

STRATEDGY TO OVERCOME PROGRAM WEAKNESSES

- Goal: Maintain a successful coalition that relies upon an ongoing influx of new and diverse ideas and personalities to develop effective programs involving extensive community support.
- Objective: Continuously, recruit new injury prevention participants and retain current participants to strive for a successful coalition.
- Strategy: By June 30, 2002 recruit injury prevention participants for *SAFE KIDS* groups in Island, San Juan, Skagit, and Whatcom Counties by holding informational meetings, media announcements, and mailings.

“PROTECT YOUR BRAIN” CAMPAIGN- Reduce Serious Head Injuries and Save Lives

Helmet distribution is done through EMS providers, trauma facilities, *SAFE KIDS*, and local organizations. Trained personnel custom-fit each helmet for individuals that could not otherwise acquire one. North Region EMS may provide one box of helmets (20) and educational materials to participants each quarter of the Fiscal Year. With budget constraints, North Region EMS is looking for an additional avenue to help support the campaign to make the helmets available throughout the Region.

STRATEDGY TO OVERCOME PROGRAM WEAKNESSES

- Goal: Provide a regional “Protect Your Brain “ Campaign to reduce serious head injuries and save lives.
- Objective: With regional partners help support and implement *SAFE KIDS* in Regional Counties to reduce inefficient duplication of helmet programs.
- Objective: Encourage participants to accept donations for custom-fit helmets and by doing so, providing funding for existing helmet programs and seed money for developing programs.
- Strategy: By June 30, 2002 help support and implement *SAFE KIDS* in Regional Counties. *SAFE KIDS* are required to accept donations for custom-fit helmets.

Buckle Up Baby Safety Car Seat Program – Reduce Fatality Risk by 71%

July 1, 2002 all children who have outgrown child safety seats must be properly restrained in a booster seat until they are six years old, or weigh forty pounds. Child Passenger Safety Advocates strongly recommend that children are restrained in a booster seat until they are eight years old, since seat belts were made for adults weighing eighty pounds.

Injury prevention participants are diligently educating the community by providing car seat check up events, educational materials, presentations, and media announcements to help heighten the awareness of the future booster seat law. The law will impact many low-income families throughout the Region. There will be a substantial need of booster seats and not adequate funds to provide booster and car seats for low-income families.

STRATEGY TO OVERCOME PROGRAM WEAKNESSES

- Goal: Heighten the awareness of “Anton’s” Law going into effect July 1, 2002 and have car safety seats available for families that could not otherwise acquire one.
- Objective: Continue to educate the general public and injury prevention participants about the “Anton’s” Law, provide Child Passenger Safety training for injury prevention participants, and provide car safety seats for families that could not otherwise acquire one.
- Strategy: By June 30, 2002 help support Child Passenger Safety Technician Course, or CPS informational days and recruit new partnerships to help support funding for car safety seats.
- Strategy: By April 30, 2002 encourage prehospital, hospital, organizations, injury CPS advocates to participate in the North Region EMS Injury Prevention Mini-Grant Process to obtain funds to support child passenger safety issues, such as providing car safety seats.

North Region EMS Injury Prevention Mini-Grants – Support IP Programs

North Region EMS Injury Prevention Mini-Grant awards are an effective method of bringing many, previously uninformed, provider groups on board with the system development efforts within the Region. This program allows diversity within the Region of injury prevention programs that are based on current data and demonstrate some level of SMART (Specific, Measurable, Attainable, Realistic, and Time-based). The program covers five counties and brings the challenge of monitoring and reporting on the specific programs supported by North Region EMS.

STRATEGY TO OVERCOME PROGRAM WEAKNESSES

- Goal: Collect and have available information on injury prevention programs throughout the Region.
- Strategy: By June 2002, require all mini-grant recipients to submit an injury prevention program report to North Region EMS.

Drinking Drivers Are Out There – Raise Awareness About DUI

North Region EMS is addressing DUI traffic related issues by supporting “Drinking Drivers Are Out There” signage on Regional Highways. There is tremendous strength if a Highway Safety Corridor Project exists in a county. A weakness occurs when a county doesn’t have an existing Highway Safety Corridor Project. This makes it challenging to have the signage posted.

STRATEGY TO OVERCOME PROGRAM WEAKNESSES

- Goal: Reduce the incidence of drinking while under the influence by heightening the general public’s awareness of the tragic consequences by partnering and collaborating with other DUI preventative programs.
- Objective: With regional partners, help implement “Drinking Drivers Are Out There” and DUI Mock crashes as another avenue to make an impact with youth.

- Strategy: By December 31, 2001 help post DUI signage on Regional Highways with Highway Safety Corridor Projects.
- Strategy: By June 30, 2002 support DUI Mock crashes throughout the Region to help reduce DUI traffic related issues.

C. DEMOGRAPHICS

The following tables indicate selected population data by age and sex to assist programs in understanding the magnitude of their efforts with respect to the population. For a detailed look at the regions demographic information please refer to Appendix K.

North Region Population by Age and Sex

Age	Males	Females	Total Number
0 - 14	108,506	103,103	211,609
15 - 24	68,725	64,895	133,620
25 - 44	150,024	146,401	296,425
45 - 64	107,624	109,455	217,079
65+	44,206	58,513	102,719
Totals	479,085	482,367	961,452

Refer to Appendix F for Nonfatal Injury Hospitalizations and Fatal Injuries for Washington State residents in North Region. The data is from the State of Washington Department of Health, Injury Prevention Programs Department, printed April 2001.

The following tables show overall deaths by place of residence and injury specific deaths by place of residence for the North Region counties. This information was made available by the Department of Health, Center for Health Statistics.

Deaths by Place of Residence and Occurrence, 2000

Area	Residence, Total	Percent Distribution	Residence, Crude Rate ¹	Residence, Age-Adj Rate ²	Occurrence, Total	Percent Distribution
State Total	43,902	-	7.4	8.0	43,934	-
Island	531	8.0	7.4	7.1	378	6.2
San Juan	114	1.7	8.1	5.6	79	1.3
Skagit	938	14.1	9.1	7.9	941	15.5
Snohomish	3,824	57.7	6.3	8.1	3,412	56.4
Whatcom	1,224	18.5	7.3	7.7	1,243	20.5
Region Total	6,631	100.0	-	-	6,053	100.0

1 - Rate per 1,000 population

2 - Rate per 1,000 age-adjusted to US 2000 Population - Does not include deaths where age is unknown

Source: Center for Health Statistics, Washington State Department of Health

**Deaths by Selected Accidents for Washington State
Residents Where Injury Occurred, 2000**

County of Injury	All Accidents	Motor Vehicle	Falls	Drownings	Fires	Other Accidents	Total
State Total	2,048	708	458	92	58	732	4,096
Island	14	6	2	2	0	4	28
San Juan	2	1	0	0	0	1	4
Skagit	39	17	9	1	1	11	78
Snohomish	150	49	35	4	8	54	300
Whatcom	45	12	12	4	2	15	90
Region Total	250	85	58	11	11	85	500

Note: Source for groups is the International Classification of Diseases (Tenth Revision):

All Accidental (ICD-10: V01-X59, Y85-Y86); Motor Vehicle (ICD-10: V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2); Falls (ICD-10: W00-W19); Drownings (ICD-10: V90, V92, W65-W74); Fires (ICD10: X00-X09); Other Accidents (remainder)

Source: Center for Health Statistics, Washington State Department of Health

D. GOALS

The council has a structure in place, which allows local EMS providers to participate in the direction of the system. There are many prehospital and hospital providers, plus other agencies whom together concentrate on reducing injury death and disability in Island, San Juan, Skagit, Snohomish and Whatcom counties. North Region draws on their expertise and knowledge to develop specific goals and objectives for the region. These guidelines enable the regional council to target and support injury prevention and public information efforts.

The council's goals and objectives are based on specific data outcomes supplied by local, regional, and state agencies. The following are some of North Region EMS's goals and objectives for 2002 – 2003. The goals and objectives illustrate a steady progress toward the region's overall injury prevention and EMS system mission.

Goal: Promote and implement injury prevention activities throughout the region and by doing so, reducing preventable and premature death and disability due to traumatic injury.

Objective: North Region EMS will help to reduce deaths and serious head injuries associated with “wheeled” activities, snow sports, and horseback riding.

Strategy: By June 30, 2003 North Region EMS, *SAFE KIDS*, and injury prevention partners will distribute approximately 4000 helmets.

Objective: With regional partners, help implement *SAFE KIDS* Coalitions in Island, San Juan, Skagit, and Whatcom counties and support Snohomish County *SAFE KIDS* Coalition.

Strategy: By June 30, 2002 support the implementation of *SAFE KIDS* in Regional Counties.

- Strategy: By September 1, 2002 & 2003, award injury prevention mini grants to support ongoing injury programs, or “seed money” for developing injury programs, which would include *SAFE KIDS*.
- Objective: North Region EMS will provide education on the new “Anton’s” Law pertaining to booster seat usage going into effect July 1, 2002.
- Strategy: By June 30, 2002 will help educate prehospital, hospital, schools, and child passenger safety advocates on child passenger safety issues and participate in car seat check up events.
- Objective: Provide support for implementation of brief alcohol interventions in designated trauma facilities in order to reduce alcohol-related trauma.
- Strategy: By June 30, 2002 North Region Trauma Facilities will work towards the implementation of a brief alcohol intervention program in Emergency Departments.
- Objective: Interdisciplinary collaborative effort for injury prevention activities based on statistical analysis of mechanism of injury in our communities.
- Strategy: Standardized Collector Reports on mechanism of Injury. Analyze mechanism of injury trends by March 2002.
- Goal: Enhance the North Region communication and public relations for the purpose of information sharing between agencies and providers and inform the public.
- Objective: Continue North Region EMS Web page and newsletter.
- Strategy: Education and training coordinator and others will submit education offering and regional training opportunities for web page and newsletter.
- Objective: Revise and Update Red Book.
- Strategy: By December 31, 2001, North Region will distribute Red Book to North Region participants and the public.
- Objective: Produce North Region EMS Systems video and helmet fitting video.
- Strategy: By July 30, 2002 make systems video available to EMS providers, facilities and the public.
- Strategy: By July 30, 2002 distribute helmet-fitting video with all helmet requests.

E. ACTIVITY MEASUREMENT

North Region EMS is focusing on project outcomes and effectiveness, and accomplishments. The Projects Coordinator will be using two basic guidelines. The first guideline is “Process” evaluation. Process evaluation describes how the project was done. Process evaluation identify relevant numbers: how many car seats were distributed, how many presentations were conducted, how many pamphlets were mailed and to whom, how long did the project last, who joined in to help your project, and are there minutes or sign-in sheets for meetings? By gaining this information, the council should have a clear picture of where and how funding was spent.

The second, called “Outcome” evaluation, measures whether the program accomplished the desired goals: what happened as a result of the project? Outcome evaluations are most commonly associated with how success was measured and often compare pre- and post-program information. Outcome evaluation answers did fewer injuries occur as a result of your project. This process will help the region to describe what happened, what was learned, and how can we do it better next time.

North Region EMS Injury Prevention Mini-Grants, refer to table 8. These are the projects or programs that the Executive Board and General Council selected to support for FY02. Individual mini grant applications and supportive information explain the SMART objectives. The North Region Executive Board has a straightforward approach when choosing injury prevention projects and programs to fund:

1. Must be local
2. Must be an injury prevention program with an educational component
3. Priority is given to verified EMS providers and designated trauma facilities
4. Must demonstrate some level of SMART
5. Priority is given to matching funds
6. Demonstrate follow through and complete project no later than June 30 of each fiscal year

TABLE 8

County	Agency	Purpose of Request
Island	Island County Fire District #2	In collaboration with all member agencies of Whidbey Island EMS Council provide a car seat for every child that who would benefit from one in Island County.
Island	Island County Health Department	Provide helmets to children who could otherwise not afford one.
Island	Oak Harbor Fire Department	Promote injury / accident and fire prevention to our citizens through our ever-increasing public education events.
Island	Whidbey General Hospital	Implemented Camp 911 to children of Whidbey Island, ages 9-12 years of age. The goal is to introduce first aid to youth.
San Juan	Health & Community Services	Educate and encourage the safety of the community's children with the use of car seats and helmets. Agency serves low-income families with young children (0-6 years of age) through the WIC program, case management, and pre-kindergarten clinics.
San Juan	San Juan County EMS & Trauma Council	Educate the community in drowning prevention, create knowledge of recent law regarding life jacket wearing by children under 12 years of age and have life jackets available.
San Juan	San Juan Island EMS	Prevent and minimize injuries to our young, as well educate the population on the new car and booster seat laws.
San Juan	San Juan County Fire District #3	Smoke detectors and carbon monoxide detectors.

County	Agency	Purpose of Request
San Juan	Orcas Island Fire Department	1. Basic First Aid Program 2. Senior Safety and Fall Prevention Program. C. Halloween Safety Program
Skagit	Skagit Valley Family YMCA	Help sponsor “Splash,” a drowning prevention project.
Skagit	Jefferson Elementary School	Ensure that all bicycle riders at Jefferson Elementary school have a helmet, making helmets available to children who could not otherwise afford one.
Skagit	Skagit County Child Passenger Safety Team	Grant money will go towards purchasing a car seat trailer that will be used for car seat clinics. Car seat clinics help educate caregivers and ensure car seats are properly used and installed correctly in the vehicle.
Snohomish	Monroe Fire District #3	Encourage the use of bicycle helmets through a reward program. An award point will be given to individuals seen wearing a helmet properly. After an individual has received 5 award points they can redeem the points for a \$20.00 gift certificate with participating merchants.
Snohomish	Lynnwood Fire Department	Bicycle Helmets.
Snohomish	Valley General Hospital	Purchase 200 videos in Spanish, as well as distribute 500 information cards in the effort to prevent child abuse & neglect.
Snohomish	Snohomish County Fire District #8	Continue to implement NFPA’s Risk Watch curriculum in the Lake Steven’s School district and to expand into another Snohomish County elementary school within the jurisdiction.
Snohomish	Stanwood Police Department	Purchase recognition material for next years, Safety Fun Fair. In co-operation with other local public safety agencies, we plan to assemble an array of different safety activities, demonstrations and give away items. We would like to purchase a banner. Primary goal is to focus on the safety of our youth.
Snohomish	Snohomish Health Department	Increase booster seat use among the low-income population in Snohomish County.
Snohomish	Nooksack Tribal Early Education Childhood Programs	Purchase 50 bicycle helmets for low-income children attending our camp program.
Snohomish	Providence Everett Medical Center	PEMC in association with Snohomish County SAFE KIDS Coalition will implement a Life Vest Loaner Program in Snohomish County.
Whatcom	Whatcom County Fire District #8	Funds will go towards the purchase of a Fire Safety Robot for emphasized public education.

County	Agency	Purpose of Request
Whatcom	Whatcom County Health & Services	Purchase booster seats and reduce the injury to children of families that could not otherwise afford a seat. Purchase lead tests and identify leaded blinds in homes and educate families on reducing lead risk in children.
Whatcom	Whatcom County Sheriff's Office	Promote bicycle safety at the Northwest Washington Fair in Lynden through educational material, bicycle helmets, knee & elbow pads and a bicycle.
Whatcom	Fire District One of Snohomish County	Purchase car seats and distribute through car seat clinics that will be held at the fire station.

Acknowledgements: North Region EMS is grateful to have the opportunity to work with many volunteers and paid providers to promote and support injury prevention and public education in Island, San Juan, Skagit, Snohomish, and Whatcom counties. We are committed to devote more time, energy, and resources to saving lives. We will always strive to support the best patient care possible and to promote and support the statewide EMS system.

PRE-HOSPITAL

Communication

Public Access

Primary public access within the North Region utilizes the Enhanced 911 (E911) system. E911 is available in all five counties within the Region.

When someone is critically injured in the North Region, the system is called into action. Communications plays a critical role in providing care for the severely injured patient. 911 Centers are accessible throughout the North Region from standard and pay phones. E-911 is currently available in the Region. Washington State Patrol and information relayed for county response answers all cellular 911 calls.

Dispatch

The communications chain—what happens when you call?

- The reporting party accesses 911 from any phone in the region
- 911 centers receive the call and dispatchers tone out the closest BLS fire service EMS agency
- 911 dispatches the ALS response/transport agency
- BLS agency communicates via radio with dispatch and the ALS response/transport agency about the patient situation
- ALS transport agency communicates by radio with the medical control trauma center base station to confer on patient treatment and give patient transport report
- Trauma centers communicate between themselves and to dispatch centers by phone and radio on the status of the hospital for receiving major trauma (open or diversion status)
- Dispatch centers communicate with transport units where to take the patient
- Trauma teams and surgeons are activated by pagers to respond to the emergency department to prepare to receive the trauma patient.

Training for Dispatch Personnel

The Regional Council supports and promotes Emergency Medical Dispatch (EMD) training in the region. Current trauma system legislation does not regulate communications agencies in any way. There is a growing relationship between communications centers in the North Region. It is within this network framework that regional EMS and trauma "system" planning is beginning. Communications centers are currently organizing additional emergency medical dispatcher (EMD) training for staff. EMD trained dispatchers is a regional system goal. The individual agencies are coordinating training opportunities between the centers to ease scheduling problems. The Regional Council has provided funding for EMD training in the region and will continue to do so.

Dispatch Prioritizing

All five counties in the North Region have upgraded to Enhanced 911 (E911). All dispatch agencies are dedicated to supporting system development activities for E911. Using Patient

Care Procedure #3 (Appendix A) dispatch personnel are directed on appropriate use of trauma system activation and prioritization.

Provision for Bystander Care with Dispatcher Assistance

North Region dispatchers provide pre-arrival telephone medical instruction, including CPR. CPR and first-aid courses are provided in each county. More populated areas will tend to have greater access to such courses. The Region will be evaluating the need for more courses and easier access in the rural areas.

Patient Care Procedures (PCPs) or County Operating Procedures (COPs) Developed to Improve Communications

PCPs are presented in Appendix A. PCP #1 specifically addresses access to prehospital EMS care. No counties in the North Region have COPs.

Primary and Alternate Communications Systems

With the exception of a few communications dead spots, field and field-to-hospital communications within each county are not seen as problematic in the North Region. Communications methods do vary county to county for communications with hospitals. Some rely on the HEAR system, some MED COM and some primarily use cellular phones. Some significant inter county communication issues are present and are being addressed in the region. The greatest impact of these communications issues is around communication in disaster situations. Back-up systems are in place and are continually evaluated for effectiveness and improvements.

System Operation During Single Patient, Multiple-Patient, Mass Causality, and Disaster Incidents

For disasters at a county, region, or statewide level there are plans in place to designate how communication will be established. These plans are developed through the statewide Department of Emergency Management. Ambulance to dispatch center, Ambulance to ambulance, and ambulance to hospital communications methods are available.

Public and Private Agency Roles

Both public and private agencies have a role in communications development and implementation through a tiered dispatch and response system. Police, fire, and private ambulance agencies take part in this system. Law enforcement is responsible for overall scene security.

Evaluating Communication System Providers and Dispatch Activities Using the Following Table for Each County

County Communications Operations

Island County

One central dispatching service includes police, fire, and EMS. I-COM is E-911 for the county.

San Juan County

One central dispatching service through the Sheriff's department on San Juan Island.

Skagit County

A consolidated communication center is E-911 for Skagit County.

Snohomish County

Three communications centers - SNOPAC dispatches 62% of calls - SNOCOM dispatches 34% of the calls - Marysville dispatches 4%.

Whatcom County

WHAT-COMM call receiving and central dispatch center is the primary public safety point for dispatch. Bellingham Fire Department (Prospect Communications Center) dispatches Fire and EMS.

The following Table is not complete; please refer to Appendix G, as regional staff is working with individual communications centers to obtain more complete information.

Communication Centers Survey List by County	1. Citizen Access	2. Consolidated	3. No. Employed	4. No. Not Trained	5. Kinds of Training & How Often	6. On-going Training & Certification	7. Kinds of Protocols	8. Med. Director involvement	9. Dispatch Prioritizing	10. Bystander Care	11. Pre-arrival Instructions	12. Quality Assurance
Island ICOM	Yes	Yes	18	2	Monthly	Yes		Yes				
Skagit (no response)	Yes	Yes						No				
Snohomish SECOMM	Yes	Yes	34	0		Yes						
Snohomish SNOPAC	Yes	No	74	43								
San Juan Sheriff Department	Yes	Yes	8	0								
Whatcom Prospect COMM	Yes	No	10	10								
Whatcom WHAT-COM	Yes	No	23	23								

Strengths and Weaknesses of the Current System

It is important to encourage regional dialog about communications issues among emergency management communications centers, prehospital EMS, fire districts, and hospitals. Several recent events, locally and nationally, underscore the need for constant system evaluation and development. At the onset of a major incident, system designs are tested. Through these real life tests gaps are identified. Experience also shows us that regular training and mock situations can benefit emergency personnel as well as private citizens. Immediately after the

Nisqually Earthquake in February 2001, it became evident that some forms of communication were not available.

The focus in the North Region has been to bring decision makers together from communications agencies, Department of Emergency Management, prehospital EMS services, hospitals and the Regional Council to look at communications and patient care from a regional system perspective. This networking has been successful in developing new working relationships between disciplines from all five counties and some early direction for EMS and trauma system communication planning. The vehicle for looking at patient care and communications issues has been through discussions about development of a regional mass casualty incident plan (including communications) which would enhance county and inter-county capabilities. These are incorporated in the five-year strategic plan (Appendix B).

Demographics

The topography and population distribution within the North Region plays a role in communications requirements and abilities. The following information shows the population distribution within the region. Please see Appendix K for more detailed demographic and population data.

County and City Population Density in the North Region

County	City	2000 Population	Land Area (Mi. ²)	Population Density (Mi. ²)	Response Area Classification*
Island	County Total	71,558	208.6	343.0	
	Coupeville	1,723	1.1	1,625.5	S/R
	Oak Harbor	19,795	9.2	2,142.3	U
	Unincorporated	50,040	198.3	252.3	
San Juan	County Total	14,077	174.9	80.5	
	Friday Harbor	1,989	1.9	1,046.8	S/R
	Unincorporated	12,088	173.0	69.9	
Skagit	County Total	102,979	1,735.3	59.3	
	Anacortes	14,557	13.1	1,113.8	S
	Burlington	6,757	4.0	1,680.8	S/R
	Concrete	790	1.4	568.3	R
	Hamilton	309	1.1	291.5	R
	La Conner	761	1.5	500.7	R
	Lyman	409	8.3	49.5	R
	Mount Vernon	26,232	11.3	2,331.7	U
	Sedro-Woolley	8,658	3.8	2,308.8	S/R

	Unincorporated	44,506	1,691.0	26.3	
County	City	2000 Population	Land Area (Mi. ²)	Population Density (Mi. ²)	Response Area Classification*
Snohomish	County Total	606,024	2,090.2	289.9	
	Arlington	11,713	10.5	1,118.7	S
	Bothell**	13,965	12.3	1,138.1	--
	Brier	6,383	2.2	2,914.6	S/R
	Darrington	1,136	1.9	585.6	S/R
	Edmonds	39,515	9.0	4,371.1	R
	Everett	91,488	33.7	2,712.4	U
	Gold Bar	2,014	1.4	1,408.4	S/R
	Granite Falls	2,347	1.7	1,397.0	S/R
	Index	157	0.2	826.3	R
	Lake Stevens	6,361	2.1	3,102.9	S/R
	Lynnwood	33,847	9.9	3,412.0	U
	Marysville	25,315	9.8	2,593.8	U/S
	Mill Creek	11,525	3.8	3,065.2	U/S
	Monroe	13,795	5.3	2,583.3	U/S
	Mukilteo	18,019	6.1	2,934.7	U/S
	Snohomish	8,494	2.6	3,254.4	S/R
	Stanwood	3,923	2.0	1,951.7	S/R
	Sultan	3,344	4.0	846.6	R
	Woodway	936	1.0	900.0	R
	Unincorporated	311,747	1970.7	158.2	
Whatcom	County Total	166,814	2,120.1	78.7	
	Bellingham	67,171	27.2	2,471.3	U
	Blaine	3,770	5.7	662.6	R
	Everson	2,035	1.1	1,817.0	S/R
	Ferndale	8,758	7.3	1,206.3	S/R
	Lynden	9,020	4.0	2,232.7	S/R
	Nooksack	851	0.7	1,233.3	S/R

	Sumas	978	1.3	740.9	R
County	City	2000 Population	Land Area (Mi. ²)	Population Density (Mi. ²)	Response Area Classification*
Whatcom Cont.	Unincorporated	74,231	2,073.8	35.8	
City Totals		468,840	223.4	2,099.1	
Unincorporated		492,612	6,105.8	80.7	
Region Total		961,452	6,329.1	151.9	

Sources: Population – US Census Bureau, Census 2000

Land Area – State of Washington, Office of Financial Management, State Data Book, 2001

* U = Urban, S = Suburban, R = Rural. Combinations indicate that the area fit more than one definition per WAC 246-976-010 (also described under the “Verified Aid and Ambulance Services” section of this plan)

** The incorporated city of Bothell is partially in Snohomish and King Counties. The population data represent that portion which exists in Snohomish County but the land area is all of incorp. Bothell.

Goals

Goal: Assist all dispatch agencies in North Region with adoption and implementation of EMD programs consistent with DOH EMD guidelines.

Objective: Through December 31, 2003 assist in providing EMD CE training on a continuing basis.

Strategy: Assist in the coordination of ‘Train-The-Trainer’ classes (instructors to include dispatchers and paramedics).

Objective: Assist in identifying fiscal resources to support EMD training.

Goal Enhance the North Region communication process for the purpose of Disaster Readiness and Networking.

Objective: Develop inter facilities collaboration / communication for system overload.

Strategy: Standardize plans. Regional Operation procedure for MCI to include: prehospital, hospital, law enforcement and all other agencies included in disaster preparedness.

Strategy: Evaluate Portland NBC Readiness Guideline.

Medical Direction of Pre-Hospital Providers

Physicians are appointed by DOH to provide medical direction of prehospital personnel in each county. The physicians are the Region’s Medical Program Directors (MPDs). MPDs provide the legal authority for paramedics, EMTs, ILS, IV, and Airway, and First Responders to administer patient care within their county. North Region MPDs develop patient care

protocols for BLS and ALS that describe and regulate the scope of practice and medical treatment for EMS. WAC states that local MPD patient care protocols are not to be in conflict with Regional PCPs. Regional PCPs are to be the foundation for MPD patient care protocols as well as COPs. COPs are developed when a MPD determines that more direction is needed to specify how Regional PCPs will be used throughout their county.

Off-line Medical Direction of Prehospital Personnel

Medical off-line direction is delegated to the county MPDs. MPDs recommend training content and schedules to meet local county needs and training requirements established by DOH. Authority resides with the MPDs to make recommendations to DOH for certification and re-certification of prehospital personnel. The individual providers are responsible to their respective MPDs to document and demonstrate accomplishment of CME requirements and skills maintenance. Administrative Code specifies that the MPD may delegate in writing duties relating to training, evaluation, or examination of certified EMS/TC personnel, to qualified non-physicians (WAC 246-976-920). Each MPD is also responsible for establishing countywide quality assessment programs to assure quality care is provided by all prehospital providers

On-line Medical Direction of Prehospital Personnel

All prehospital orders will originate from local hospital base stations whose operations are overseen by the county's MPD. Emergency department physicians in the base stations are delegated by the MPD to provide on-line medical direction to prehospital personnel providing care in the field (WAC 246-976-920). This direction is consistent with approved MPD protocols.

North Region EMS Medical Program Directors

Paul Zaveruha, MD, Island County

Burk Gossom, MD, San Juan County

Ron Richeson, MD, Skagit County

George Cozzetto, MD Snohomish County

Marvin Wayne, MD, Whatcom County

Medical Program Directors Responsibilities

RCW 18.71 and 18.73 assigns responsibility to each county MPD to:

- Establish patient care protocols for prehospital care
- Oversee initial training and continuing education for prehospital providers
- Supervise practical skills examinations/evaluations; and provide counseling and disciplinary action as needed
- In each county, the MPD has an expanded leadership role in system planning and management. This role is essential to continued prehospital system improvement.

Delegated Training Physicians

The County Medical Program Director may delegate teaching, supervision, and on-line (hospital medical control) responsibilities to other physicians who must be approved by the department as training physicians or supervising physicians.

Regional funding is allocated to each county MPD through the state contract. Most of the North Region MPDs are also paid either as county MPDs or through agencies as the medical director.

While the MPDs meet quarterly, they may revise local patient care protocols to distribute region-wide. This group continues to improve the regional EMS and Trauma System by reevaluating current strategies, goals and strategies.

In the North Region the MPDs have developed county specific patient care protocols. General principles of American Heart Association cardiac care and American College of Surgeons trauma care are common in the protocols of all five counties. The MPDs in the region meet quarterly and discuss regional issues. They have developed inter-county agreements for education and provider reciprocity. They are participating in ongoing development of new regional patient care procedures (system guidelines) (Appendix B)

Strengths and Weaknesses

The Region's system of Medical Program Direction is operating successfully. However, It is a goal of the North Region to continue to pursue avenues of evaluation and improvement. One weakness may be seen as lack of empowerment for the MPDs to enforce higher than State minimum standards. The region would like to strengthen the roles of the MPDs to improve system operation.

Another weakness is that the MPDs, although dedicated to their duties, have limited time to devote to regional meetings. Limited funding and heavy patient loads contribute to this situation. However, they are available through other means of communication should the need arise.

Prehospital EMS and Trauma Service

Current EMS/TC Personnel Resources

Thousands of volunteer and paid providers are involved in the provision of EMS and trauma care in the North Region EMS and Trauma Care System including:

911 Dispatchers	Law Enforcement
First Responders	Ambulance Crews
Emergency Medical Technicians	Physicians & Nurses
Paramedics	Fire Fighters
Aero-medical Crews	Ski Patrol
Hospital & Clinic Medical Support Staff	Mountain Rescue/Search and Rescue

PAID / VOLUNTEER COUNT — BY COUNTY

	#Fir's		#EMT's		#I.V.'S		#AW's		#I.V./AW's		#ILS's		#ILS/AW's		#PM's		TOTALS	
	Paid	%	Paid	%	Paid	%	Paid	%	Paid	%	Paid	%	Paid	%	Paid	%	Paid	%
	Vol.	%	Vol.	%	Vol.	%	Vol.	%	Vol.	%	Vol.	%	Vol.	%	Vol.	%	Vol.	%
Island County																		
	16	6%	39	14%	0	0%	0	0%	0	0%	0	0%	0	0%	17	6%	72	26%
	34	12%	169	61%	1	0%	0	0%	0	0%	0	0%	0	0%	1	0%	205	74%
San Juan County																		
	0	0%	1	1%	0	0%	0	0%	0	0%	0	0%	0	0%	9	9%	10	10%
	13	13%	79	77%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	92	90%
Skagit County																		
	26	7%	36	10%	4	1%	0	0%	0	0%	0	0%	0	0%	39	11%	105	30%
	71	20%	170	49%	3	1%	0	0%	0	0%	0	0%	0	0%	0	0%	244	70%
Snohomish County																		
	16	1%	443	38%	19	2%	0	0%	1	0%	0	0%	0	0%	111	10%	590	51%
	108	9%	464	40%	5	0%	0	0%	0	0%	0	0%	0	0%	0	0%	577	49%
Whatcom County																		
	23	4%	123	19%	1	0%	0	0%	3	0%	0	0%	0	0%	46	7%	196	31%
	165	26%	269	42%	2	0%	0	0%	0	0%	0	0%	0	0%	1	0%	437	69%
GRAND TOTALS																		
	81	3%	642	25%	24	1%	0	0%	4	0%	0	0%	0	0%	222	9%	973	38%
	391	15%	1151	46%	11	0%	0	0%	0	0%	0	0%	0	0%	2	0%	1555	62%

% Indicates the percentage of total personnel for each county

Provided by DOH

The work force in the region is 62% volunteer. The breakdown of volunteers by county is:

COUNTY	1997	1999-2001
Island County	—	74%
San Juan County	89%	90%
Skagit County	65%	70%
Snohomish County	55%	49%
Whatcom County	68%	69%

The prehospital volunteer work force experiences a twenty to thirty percent attrition rate annually by county. The current number of initial training courses in First Responder and EMT certification in each county is reported to be adequate to keep pace with the annual loss. The region provides funding support for some of these classes. Expanding requirements for additional training to meet state and national standards for fire and

EMS are cited as a primary cause for attrition. A volunteer provider recognition effort is planned as part of the regional public information and education and quality improvement work and will be evaluated for any related decrease in attrition.

There are 119 prehospital agencies that provide service in the North Region. (Refer to Appendix E)

Maintaining paid and volunteer prehospital personnel will always be a challenge for the North Region. While the North Region system is strong and viable, personnel members are down from previous years. (Refer to Table on page 28 under D. Prioritizing and Conducting Prehospital Training.) It is necessary to continue to seek highly qualified prehospital personnel to provide current and future patient care.

Some agencies use flexible staffing schemes to maintain personnel interest while meeting the needs of their agencies. In Island and Snohomish Counties agencies hire personnel who have an interest in firefighting or prehospital care rather than strictly maintaining staff dual qualified in both fields. Prehospital personnel who want to focus their efforts on patient care can do so without having to fight fires. The reverse is true for firefighters who only want to focus in that area. In situations where fire suppression requires equipment support, prehospital personnel can assist. This allows all available fire personnel to focus on arresting the fire.

Prehospital Training Resources

Education and training is a high priority in the North Region. The Regional Council supports education for prehospital providers. The Council has established a commitment to provide education and training to:

- Assure an adequate prehospital work force through initial training support and continuing education for recertification;
- Assure prehospital services can meet verification requirements;
- Assure continuous system quality improvement.

The Regional Council provides funding for low cost, region-wide courses including Prehospital Trauma Life Support and Pediatric Advanced Life Support. The Council office coordinates the region-wide "trauma" education courses funded by the Regional Council. These courses are advertised regionally and held in various county locations. Training for Paramedics within the region has been funded as well. The Regional Council is a major sponsor of two annual prehospital medicine conferences that are held in the region and provides continuing education to hundreds of providers from the North Region. In addition, local county Councils receive Regional Council funding for initial training, Ongoing Training and Evaluation (OTEP) events, and continuing education. Care is taken to assure the needs of rural providers and greatest areas of need is a focus of regional education funding support. Pediatric education is a need in the region and a focus for the Regional Council. The Regional Council continues to offer PALS to paramedics and to develop pediatric care modules for use in OTEP programs for prehospital providers. The Regional Council also supports instructor training and uses pools of qualified instructors for regional courses. Local county Councils manage county EMS education.

Prioritizing and Conducting Prehospital Training

The Regional Council relies on local county EMS councils to identify training needs to maintain current levels of personnel. Regional trauma facilities are responsible for identifying hospital training needs. The Regional Education Committee develops goals and objectives to prioritize and secure hospital and prehospital personnel training. Additionally, the Regional Council has identified the need for an evaluation of ILS. North Region MPD's will evaluate the areas of need and feasibility for ILS within the region. (Refer to Goals & Objectives Appendix B)

North Region Prehospital Training Comparison Levels

County	First Responder		IV/AW IV AW		EMT		PM		Totals	
	1997	00/01	1997	00/01	1997	00/01	1997	00/01	1997	00/01
Island	116	50	2	1	135	208	15	18	268	277
San Juan	12	13	2	0	83	78	9	9	106	100
Skagit	114	97	8	7	233	206	55	39	410	349
Snohomish	294	124	18	24	802	907	84	111	1,198	1166
Whatcom	209	188	4	3	400	392	45	47	658	630
Totals	745	472	34	35	1,653	1791	208	224	2,640	2522

Additional Public Safety Personnel Role and Availability

Mt. Baker Ski Patrol (Whatcom County) provides care for EMS and trauma patients at and around the ski area during winter operations. Patrollers are a mix of EMT, Paramedic, nurse, physician, and ski patrol first aid trained providers.

The National Park Service provides initial care for visitors to the two national parks in the North Region, San Juan National Historical Park, on San Juan Island, and the North Cascades National Park, a wilderness recreation area, 600,000 acres of which are in Whatcom and Skagit county. Forty percent of the staff is EMTs.

Search and Rescue/Mountain Rescue provide rescue and medical service throughout the region. Some members are EMTs or first aid trained. These agencies coordinate with local Sheriff departments and the Department of Emergency Management by county.

Whidbey Island Naval Air Station in Island County is utilized throughout the Region in rescues where hoisting of patients by helicopter is required. Activation of naval SAR units is through the Sheriff's department in the respective county.

Demographics

Please see the table on the next page entitled "North Region Population Data" and Appendix K for further demographic data specifying age and sex data by county.

Goals

Goal: The North Region will assist agencies and facilities to meet 100% of the prehospital and 90% of the trauma facility training required by WAC, through community based education grants.

Objective: The North Region will support and conduct instructor/evaluator development for the purpose of promoting the highest level of quality training in the North Region.

- Strategy: Develop a region-wide-standardized criterion for instructor/evaluator qualifications.
- Strategy: The North Region will support and conduct formal instructor / evaluator training, regional and local instructor / evaluator workshops and other instructor / evaluator events.
- Objective: Implement & coordinate a region-wide evaluation of prehospital initial & ongoing education.
- Strategy: Develop a standardized evaluation tool to analyze existing programs.
- Strategy: Provide a regional report that identifies the strengths and weaknesses of the current system.
- Strategy: Develop & implement a regional wide improvement plan based on the findings of the regional report.
- Objective: The North Region Education Committee will continue recommending funding for support of basic and continuing prehospital education in the North Region.
- Strategy: Continue to support and/or conduct recognized packaged programs for continuing educational treatment enhancement to prehospital providers i.e., PHTLS, WA PEPP, PALS and equivalent.
- Strategy: Continue grant-funding recommendation for community-based training for prehospital providers to local EMS councils.

Verified Aid and Ambulance Services

Current Status

The Region's Prehospital Committee is working with all five local EMS councils and local communications centers with guidance from DOH staff to provide an assessment of the need for and distribution of services within the region as defined in RCW 70.168.100(1)(h).

As of this submission, the committee is working on response times and performance indicators and has developed new goals and strategies to guide the committee through the process. Please refer to Appendix B.

Also, the Prehospital Committee had been working closely with DOH to develop regional maps. Since the mapping specialist left the state office no regional mapping work has been done at DOH. The Prehospital Committee will be addressing this issue in the near future. The Region will be collaborating with county GIS departments and DOH to produce usable maps for each county. Once complete, these maps will be incorporate into the Regional Plan.

In past, the Prehospital Committee reviewed standards for minimum response times as found in Volume III of the Prehospital Report. It was the opinion of the committee that optimum care for the major trauma patient could be enhanced by shorter response times in urban, suburban, and rural and wilderness areas. In conjunction with statutory authority for a Region to set more stringent standards, a focus of the committee was to set standards which would provide essential life saving skills of airway control and bleeding control within a minimal period of time. Response times for transport vehicles were developed recognizing the importance of ALS skills for advanced airway control, IV access, fluid replacement, and the potential need for invasive therapy for the major trauma patient.

Standard for initial provider response times to scene will be:

Urban	5 minutes
Suburban	5 minutes
Rural	12 minutes
Wilderness	40 minutes

Standard for initial ALS transport unit response times to scene were agreed to be as follows:

Urban	8 minutes
Suburban	10 minutes
Rural	20 minutes
Wilderness	60 minutes

The North Region recommends that these response times are met 80% of the time.

According to WAC 246-976-010 the following definitions explain response area categories:

Urban

- An incorporated area with a population over 30,000 or
- An incorporated area of at least 10,000 people and a population density over 2,000 people per square mile

Suburban

- An incorporated or unincorporated area with a population of 10,000 – 29,999 or
- Any area with a population density of 1,000 – 2,000 people per square mile

Rural

- An unincorporated or incorporated area with a total population less than 10,000 people or
- An unincorporated or incorporated area with a population density of less than 1,000 per square mile

Wilderness

- Any area not readily accessible by publicly or privately maintained road

Strengths and Weaknesses

One of the strengths of this system is the continuing growth in numbers of verified prehospital agencies. Since the inception of the trauma care funding, which allows verified agencies to receive annual \$1,200 participation grants, more agencies are verifying. Currently 72% of the 119 prehospital agencies licensed to operate in North Region counties are verified to provide trauma care. Other agencies have increased skill levels to meet identified needs.

The region continues to provide a strong system of CME and OTEP through training programs established with the local EMS and Trauma Care Councils.

Development of regional maps identifying prehospital service areas continues to be a weakness in the North Region. It is a goal of the Prehospital Committee to work with the DOH and other agencies to develop a system of mapping and response area identification in order to continuously monitor and improve response times. This can be a challenge with respect to the varying geography and population distribution throughout the region.

Demographics

The total area to be served in the North Region is 6,329 square miles, some of which is urban and suburban, but most of which is rural and wilderness areas. As of April 1, 2000 the US Census Bureau and the Washington State Office of Financial Management listed the population of the North Region as 961,452. The following table shows the population by age and sex for the region. For more detailed demographic and population information, please see Appendix K.

North Region Population by Age and Sex

Age	Males	Females	Total Number
0 - 14	108,506	103,103	211,609
15 - 24	68,725	64,895	133,620
25 - 44	150,024	146,401	296,425
45 - 64	107,624	109,455	217,079
65+	44,206	58,513	102,719
Totals	479,085	482,367	961,452

- a) Land area – 6,329.1 square miles
- b) Land area in incorporated areas – 223.4 square miles (3.5%)
- c) Land area in unincorporated areas – 6,105.8 square miles (96.5%)
- d) Total population – 961,452
- e) Population density – 151.9 persons per square mile
- f) Proportion of population in incorporated areas – 468,840 (48.8%)
- g) Proportion of population in unincorporated areas – 492,612 (51.2%).
- h) Mortality, by place of occurrence, for region: Refer to the tables in the Injury Prevention and Public Education section and Appendix F for data related to mortality in the North Region.

In the North Region, prehospital EMS care is provided through a tiered approach. The initial response includes the dispatch of local basic life support (BLS) fire service First Aid providers, First Responders, and EMT's. Most local fire service agencies respond with "aid vehicles." Some of these vehicles are capable of patient transport but do so only in special situations. Some agencies respond with "ambulances" as their initial response vehicle. On a regional basis, there is limited BLS transport without prior ALS patient assessment at the scene. Advanced Life Support (ALS) is the primary mode of transport for trauma. Patient care procedures (Appendix A) address the standard for response and transport of trauma patients in the region. North Region expands regional patient care procedures for trauma patient care.

For the most part, BLS first response units respond within their fire district boundaries. Current placement of fire department locations appears to provide response times that are compatible with those mandated in WAC 246-976-390. (Refer to Appendix J, Service Area County Maps). Use of trauma registry data is needed to substantiate any need to change the system.

ALS transport units in the region have varied response areas. Transport ambulance agencies are fire service based, hospital based and private. Some services respond county wide, others respond within combined fire districts, still others respond to segments of a county. Regional data is not available to determine if there are issues around response time for ALS transport vehicles. Registry data is needed to assess response times to substantiate any need to change the system. Currently in several counties in the North Region, ALS coverage is being looked at for possible system improvements.

There is rotary wing air ambulance service available in the North Region. Airlift Northwest provides routine ALS service to the region. Airlift Northwest is based out of Bellingham and Arlington. Airlift Northwest is headquartered at Harborview Medical Center in King County provides service throughout the region and is the primary air transport service for critical pediatric patients. . Regional patient care procedures (Appendix A) address activation of helicopter response. Fixed-wing transportation is available in the region. Air-Medical Systems, Inc. is located in Snohomish County. Air-Medical Systems is a non-emergency transportation service. They offer five levels of fixed-wing air-ambulance service to suit most financial and medical situations. These include: inter-continental jet service, medium-range jet service, twin turboprop services, commercial escort/stretchers service, and charitable referrals.

Most prehospital agencies are currently verified as trauma services as required to provide trauma care under WAC 246-976-390. Verification of all prehospital agencies providing medical response is a goal in the regional system.

The Regional Council has offered equipment grants to all prehospital agencies annually since 1991 in order to assist them in meeting trauma verification standards. Currently, equipment standards appear to be met or exceeded in the North Region. Therefore, no new equipment grants for prehospital agencies are planned for FY02-03.

Minimum and Maximum Numbers of Verified Prehospital Agencies

Prior to this Plan submission (FY02-03), the Regional Council relied on each local EMS council to establish minimum and maximum numbers of prehospital services. The local councils were responsible for forwarding those numbers to the Region for Plan implementation. However, with the development and implementation of a new needs and distribution tool, local EMS councils will have a uniform method to establish minimum and maximum numbers of verified prehospital agencies. The following TABLES provide minimum and maximum numbers from local councils using their own methods to determine needs and distribution of verified prehospital agencies.

TABLE A. Verification – Minimum/Maximum and Currently Verified**Island County**

SERVICES	Check if No Change	CURRENT Number Verified	MINIMUM NUMBER		MAXIMUM NUMBER	
			Approved	Recommended	Approved	Recommended
Aid -BLS	X	5	8	8	10	10
Aid - ILS	X	0	0	0	0	0
Aid - ALS	X	0	1	1	2	2
Amb - BLS		1	8	6	10	7
Amb - ILS	X	0	0	0	0	0
Amb - ALS	X	1	1	1	2	2

San Juan County

SERVICES	Check if No Change	CURRENT Number Verified	MINIMUM NUMBER		MAXIMUM NUMBER	
			Approved	Recommended	Approved	Recommended
Aid -BLS	X	1	4	4	12	12
Aid - ILS	X	0	0	0	0	0
Aid - ALS	X	0	3	3	8	8
Amb - BLS	X	1	4	4	12	12
Amb - ILS	X	0	0	0	0	0
Amb - ALS	X	2	3	3	8	8

Skagit County

SERVICES	Check if No Change	CURRENT Number Verified	MINIMUM NUMBER		MAXIMUM NUMBER	
			Approved	Recommended	Approved	Recommended
Aid -BLS	X	17	13	13	27	27
Aid - ILS	X	0	0	0	0	0
Aid - ALS	X	0	0	0	0	0
Amb - BLS	X	1	13	13	27	27
Amb - ILS	X	0	0	0	0	0
Amb - ALS	X	3	3	3	3	3

Snohomish County

SERVICES	Check if No Change	CURRENT Number Verified	MINIMUM NUMBER		MAXIMUM NUMBER	
			Approved	Recommended	Approved	Recommended
Aid -BLS		11	10	10	11	10
Aid - ILS		0	0	1	2	2
Aid - ALS	X	0	0	0	0	0
Amb - BLS		15	21	12	22	15
Amb - ILS		0	0	3	0	4
Amb - ALS		9	8	11	8	11

Whatcom County

SERVICES	Check if No Change	CURRENT Number Verified	MINIMUM NUMBER		MAXIMUM NUMBER	
			Approved	Recommended	Approved	Recommended
Aid -BLS		5	11	8	23	20
Aid - ILS		0	0	0	12	1
Aid - ALS		0	0	0	12	0
Amb - BLS		13	11	13	23	19
Amb - ILS		0	0	0	12	1
Amb - ALS		1	2	1	14	1

Goals

Goal: **Catalog & Describe licensed verified and affiliated agencies.**

Objective: Develop a survey tool to gather data from agencies.

Action: Identify available resources-what data is required.

Objective: Compile information and maintain regional database.

Action: Formulate process for ongoing maintenance with DOH: living document-licensed and
 ````certified.

**Goal:**        **To determine the adequate distribution and availability of Aid and Ambulance Services that avoids insufficient duplication and lack of coordination.**

Objective:    Develop and apply a methodology to evaluate the need and distribution of services.

Strategy:      Define terms:  
 Inefficient duplication, degradation of skills, lack of coordination, insufficient duplication.

## Patient Care Procedures (PCPs) and County Operating Procedures (COPs)

Identifying the "right patient", the ones who may die or be disabled from their traumatic injuries, is a vital element of trauma system design. In this state, we call it the State of Washington Prehospital Trauma Triage (Destination) Procedure. Prehospital providers will use it, statewide, to identify which patients activate the trauma system and go to trauma centers for care. Patients who are identified as meeting criteria are banded with trauma ID bands, which have a special number that follows the patient throughout his or her treatment. This number allows linking of data from prehospital and hospital care, which enables patient care to be looked at from beginning to end. Washington is the first state to put this in place statewide. Triage and treatment guidelines are addressed in regional Patient Care Procedures (Appendix A).

In the North Region, the tool will not routinely impact transport patterns. Due to the distance between hospitals, most major trauma patients will go to the closest hospital for initial care. For this reason it was imperative for all hospitals to meet designation standards. Receiving hospitals use additional scoring tools to determine if the patient requires a trauma team response for care.

The region operates with eleven PCPs as listed in Appendix A. The Region regularly reviews the PCPs to ensure they reflect the needs of the Region. These PCP include:

|                            |                                                                                                                                   |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Patient Care Procedure #1  | Access to Prehospital EMS Care                                                                                                    |
| Patient Care Procedure #2  | Identification of Major Trauma Patients                                                                                           |
| Patient Care Procedure #3  | Trauma System Activation                                                                                                          |
| Patient Care Procedure #4  | Identification of the Level of Medical Care Personnel to be Dispatched to the Scene of Major Trauma and to Transport Major Trauma |
| Patient Care Procedure #5  | Prehospital Response Times                                                                                                        |
| Patient Care Procedure #6  | Activation of Air Ambulance Service for Field Response to Major Trauma                                                            |
| Patient Care Procedure #7  | Transport of Patients Outside of Base Area                                                                                        |
| Patient Care Procedure #8  | Transport of Patients to Designated Trauma Centers                                                                                |
| Patient Care Procedure #9  | Designated Trauma Center Diversion                                                                                                |
| Patient Care Procedure #10 | Activation of Hospital Trauma Resuscitation Team                                                                                  |
| Patient Care Procedure #11 | Inter-facility Transfer of Major Trauma Patients                                                                                  |

Patients with special needs continue to be triaged or transferred to specialty care facilities according to the OBRA and COBRA regulations and patient need. Harborview provides Level I trauma care for the North Region. Major trauma patient transfer patterns include:

- Transfer to Providence General Medical Center, St. Joseph, or Harborview for head injury.
- Transfer to Providence General Medical Center and St. Joseph for rehabilitation.
- Transfer to Providence General Medical Center, Colby campus, or Harborview for thoracic vessel trauma.
- Triage/Transfer to Harborview for critical pediatrics.
- Transfer to Harborview for major burn trauma.
- Transfer to Harborview for unstable spine and pelvic trauma.
- Transfer to Providence General Medical Center, Colby campus, and University of Washington for trauma in pregnancy.

Guidelines for transfer of trauma patients are addressed in Regional Patient Care Procedures (Appendix A).

The Washington Administrative Code (WAC) requires designated hospitals and facilities to address trauma center diversion and transfer of major trauma patients as a condition of designation. The hospital committee has developed and recommended regional Patient Care Procedures (Appendix A), which address these and other operational issues within definitive care. Once PCPs are adopted, they are distributed and followed.

The five counties in the North Region currently do not use County Operating Procedures. Although no COPs are established, the Region will continue to evaluate the needs for such guidelines.

Overall, the Regional Council reviews and recommends to DOH all PCPs through a committee and subcommittee process. The MPD and Prehospital Committee make recommendations to the Regional council for any changes to existing PCPs and any new PCP development.

The Region continues to evaluate multi county issues such as patient delivery. PCP # 7 (Appendix A) describes responsibilities when prehospital personnel are required to transport patients outside of their base operating area (including cross county and through out the region).

## V. DESIGNATED TRAUMA CARE SERVICES

### Current Status

There are currently nine acute care hospitals that provide care to the EMS and trauma patient population in the North Region. All nine have been surveyed for essential and desired elements of the Washington State Facility Standards. Clinical elements are currently met while some trauma administrative elements are needed. Seven of the nine provide twenty-four hour physician staffed emergency department service, general surgery, and intensive care. The other two are designated at Level V status and meet the requirement set forth in WAC 246-976 for such a designation.

Since 1990, three full-service facilities have been restructured through affiliation, purchase, or consolidation, reducing the number from eleven to seven. Facilities cite the financial climate of health care as the cause.

Existing designated acute care hospital sites by county as of December 2001 are as follows:

| <b>North Region Healthcare Facilities City Designation Level</b> |               |               |
|------------------------------------------------------------------|---------------|---------------|
| <b><i>ISLAND COUNTY</i></b>                                      |               |               |
| Whidbey General Hospital                                         | Coupeville    | Level III     |
| <b><i>ISLAND COUNTY</i></b>                                      |               |               |
| Inter-Island Hospital                                            | Friday Harbor | Level V       |
| <b><i>SKAGIT COUNTY</i></b>                                      |               |               |
| Affiliated Health Services, Skagit Campus                        | Mount Vernon  | Level III     |
| Island Hospital                                                  | Anacortes     | Level III     |
| <b><i>SNOHOMISH COUNTY</i></b>                                   |               |               |
| Providence General Medical Center                                | Everett       | Level III/IIR |
| Valley General Hospital                                          | Monroe        | Level IV      |
| Cascade Valley Hospital                                          | Arlington     | Level IV      |
| Darrington Clinic                                                | Darrington    | Level V       |
| <b><i>WHATCOM COUNTY</i></b>                                     |               |               |
| St. Joseph Hospital                                              | Bellingham    | Level II      |

There is one military hospital in the region. Naval Hospital - Oak Harbor (Island County) provides 24-hour emergency service and non-acute care in patient care for local navy personnel and their families. Major trauma on base and off is transported to Whidbey General Hospital or air lifted by SAR units to Harborview Hospital, Madigan Army Hospital, or Bremerton Naval Hospital.

Naval Hospital - Oak Harbor plans to participate in the regional trauma system and is currently exploring designation. The naval facility would play a vital role in regional disaster support.

The work force within the region's hospitals is dictated by hospital operations. All hospitals maintain a twenty-four hour physician staffed emergency department and receive prehospital patients from their respective areas. Patient Care Procedures (Appendix A) address the standards for trauma patient care in the hospital.

Washington State's trauma system design calls for formally "designated" trauma centers to provide care for major trauma patients. There are three categories of facility trauma designation:

|                                |                       |
|--------------------------------|-----------------------|
| General Trauma Services        | Levels I through V    |
| Pediatric Trauma Services      | Levels I, II and III  |
| Trauma Rehabilitation Services | Levels I, II, and III |

There are two phases of designation, (1) Assessment of Need, and (2) Determination of Capability. In the first phase, numbers and levels of designated facilities are recommended to Department of Health - EMS Division, by the region, according to assessment of system needs within the region. The North Region employed a regional trauma patient study and hospital resource survey in order to make recommendations to the Department. In the second phase, Department of Health - EMS Division releases a request for proposal (RFP) to hospitals, by region. Interested facilities prepare a comprehensive proposal to designate as a trauma center. The department reviews the proposal and on-site reviews occur (Levels I-III only) to determine capability and commitment.

Hospital designation is a formal contractual arrangement between the Department of Health and the individual hospitals. Designation is voluntary, but by statute, non-designated facilities cannot receive major trauma patients from prehospital providers. Designation standards are set in Washington State Facility Standards in WAC. Successful facilities are designated for three years then must reapply for designation.

The Regional Council continues to provide a forum for discussion and planning for designation of trauma centers by hospital representatives through the Quality Improvement Committee and the Trauma Facility Network, however the Council does not have a formal role in designation beyond assessing the need for designated trauma centers and recommending the number and levels of trauma centers required in the regional system. Hospital participation is exceptional in the regional planning process. The Region is planning to continue the use of the regional council committees as a vehicle for furthering system development work. The larger urban hospitals are located in the north and south of the region along the I-5 corridor. These areas also represent the larger population centers. The location of the existing facilities has established natural geographically based referral patterns and catchment areas for patients, including major trauma patients. In most of these areas in the five counties, prehospital ambulance services transport patients to the closest hospital for care due to geographic constraints and travel time to the next closest hospital. Because of the distance between hospitals or problems with gridlock in urban settings, routine transport times are in excess of recommended state standards for triage of critical trauma patients to other than the closest hospitals. (The state standard is to transport to the highest-level trauma center within 30 minutes of the scene.) Therefore the North Region supports an inclusive hospital network and continues to encourage all hospitals to participate in the Trauma system at some level of designation, to assure rapid access to quality trauma patient care, adult and pediatric. A 1991 study of current trauma patient flow and potential destinations continues to support the regional planning recommendation.

The recommendations on re-designation in the North Region are complete. With the impact of health care reform, some facilities in the region have indicated a need to reconsider their level of participation. Stevens Hospital, Edmonds, chose not to redesignate. Through evaluation of data, the Trauma Facilities Committee and the Quality Improvement Committee can make recommendations to the Regional Council regarding minimum and maximum numbers of trauma care facilities in the region. The Region continuously assesses methodology options for determination of min/max numbers for designation. Currently the regional trauma designation recommendations, for number and level of trauma facilities, as approved by DOH are:

**TABLE B. Designation – Minimum/Maximum and Currently Designated**

| Level of Designation         | Minimum | Maximum | Current |
|------------------------------|---------|---------|---------|
| <b>General Designation</b>   |         |         |         |
| Level II                     | 2       | 3       | 1       |
| Level III                    | 4       | 6       | 4       |
| Level IV                     | 1       | 2       | 2       |
| Level V                      | 1       | 4       | 2       |
| <b>Pediatric Designation</b> |         |         |         |
| Level II                     | 0       | 0       | 0       |
| Level III                    | 1       | 2       | 0       |
| <b>Rehab Designation</b>     |         |         |         |
| Level I                      | 0       | 1       | 0       |
| Level II                     | 2       | 3       | 1       |
| Level III*                   | 2       | 3       | 0       |

\* No restrictions on designation

Level I—Pediatric Trauma Rehabilitation Services provide comprehensive inpatient and outpatient rehabilitation treatment to pediatric trauma patients regardless of level of severity or complexity of disability. These facilities serve as regional referral centers for patients, physicians, and other health care professionals in the community and outlying areas and have ongoing, structured programs for research, education, and outreach.

The North Region hospitals do not routinely keep pediatric patients who are severely injured. Emergency Department stabilization and emergency surgical intervention for pediatric trauma are capabilities in all of the acute care facilities. There are no pediatric surgeon specialists in the North Region. Many patients are triaged from the field or the Emergency Department to Level I care at Harborview. The pediatric trauma score has been adopted by the region as the standard for assessing pediatric trauma severity and potential for triage and transfer. The local hospitals meet state trauma system standards consistent with general trauma designation for provision of emergent pediatric care. It remains unlikely that any facilities will seek pediatric designations. Continued utilization of Harborview is expected. The Region is exploring the possibility of at least one designated pediatric facility. Trauma registry data will be essential in determining future recommendations with regard to pediatric designations in the North Region.

The standards for trauma rehabilitation services, with the exception of Level III, include accreditation by CARF—the Commission on Accreditation of Rehabilitation Facilities. All trauma rehabilitation services participate in the trauma registry and regional QI programs.

Returning the trauma patient to a productive citizen in their community is the final charge of the EMS and Trauma Care System. In order to meet this charge, the Washington State's system includes designated rehabilitation centers. The statewide rehabilitation network model is planned to keep the patient in rehabilitation as close to home as possible. In the North Region, Providence Everett Medical Center and St. Joseph Hospitals have active rehabilitation programs including trauma rehabilitation. Currently, St. Joseph Hospital rehabilitation program is not designated. Representatives from both institutions have participated in statewide planning for the rehabilitation system. Both facilities meet the designation standards as outlined in WAC for Level II rehab center designation. St. Joseph Hospital, in Whatcom County, has an automatic referral for rehab consultation within the first 48 hours after admission for all major trauma patients who are trauma code patients (patients activating the hospital's trauma team response, which is based on severity). This could be incorporated into regional patient care procedures in the future.

### **Trauma Training Resources**

The North Region Trauma Facility Committee identifies trauma facility education needs. Annually the Trauma Service Coordinators do a needs analysis for each designated facility. Based on results, the required core courses for designation are given throughout the region hosted by the various facilities. The courses are Trauma Nursing Core Course (TNCC), Emergency Nursing Pediatric Course (ENPC), Pediatric Advanced Life Support (PALS), Advanced Cardiac Life Support (ACLS) and the 4 and 8 hours of trauma education for critical care nurses. In addition, there are county conferences within the North Region that are offered to both EMS and hospital providers that include trauma topics.

Currently, the courses offered only cover one time core trauma education as required by WAC. There are an overwhelming number of RN providers that are in need of recertification and additional training to maintain trauma expertise. A goal of the Trauma Facility Committee has been to develop a one-day refresher trauma course, however, due to lack of funding and personnel to develop a cost-effective curriculum; the goal has not been met.

## Demographics

In 2000 there was a total population of 961,425 (U.S. Census Bureau). During calendar year 2000, 1,336 trauma patients meeting Washington State trauma registry inclusion criteria were seen in Region hospitals (Department of Health). This represents a rate of 13.9 trauma patients per 10,000 people in 2000. The following table shows age and sex specific trauma patient and population data.

**North Region Trauma Patients and Population, 2000**

| Age          | Hospital Trauma <sup>1</sup> |            |              | Region Population <sup>2</sup> |                |                | Per 10,000 Population |
|--------------|------------------------------|------------|--------------|--------------------------------|----------------|----------------|-----------------------|
|              | Male                         | Female     | Total        | Male                           | Female         | Total          |                       |
| 0-14         | 124                          | 59         | 183          | 108,506                        | 103,103        | 211,609        | 8.6                   |
| 15-24        | 203                          | 75         | 278          | 68,725                         | 64,895         | 133,620        | 20.8                  |
| 25-44        | 240                          | 95         | 335          | 150,024                        | 146,401        | 296,425        | 11.3                  |
| 45-64        | 145                          | 86         | 231          | 107,624                        | 109,455        | 217,079        | 10.6                  |
| 65+          | 99                           | 174        | 273          | 44,206                         | 58,513         | 102,719        | 26.6                  |
| Not Valued   | 29                           | 7          | 36           |                                |                |                | N/A                   |
| <b>Total</b> | <b>840</b>                   | <b>496</b> | <b>1,336</b> | <b>479,085</b>                 | <b>482,367</b> | <b>961,452</b> | <b>13.9</b>           |

1 – Source: Washington Trauma Registry, Department of Health

2 – Source: Census 2000, U.S. Census Bureau

## Goals

**Goal: Implement & follow guidelines for course directors of education programs by July 31, 2001.**

Objective: Conduct a needs analysis of required education & training.

Objective: Educate Administration on use of grants to include letter from the State EMS and Trauma Office

Objective: 100% of facilities will meet designation requirements specified by Department of Health.

Objective: Fulfill requirements set forth by department of Health for Trauma Facility Designation.

Strategy: Clarification / education by Designation Section in Department of Health to meet the requirements within the assigned timeline, October 2001.

Objective: Review/ revise minimum and maximum numbers of designated services in the Region, recommendation as of May 20, 2001.

Objective: Promote provision of invasive training for prehospital providers for levels I, II and III.

**Goal: Improve patient outcomes through the validation of Trauma Team activation tools.**

Objective: Evaluate Trauma Team activation tools utilized by North Region facilities.

Strategy: By December 31, 2001, Trauma Facility Committee will review current Trauma Team activation tools.

Strategy: By December 31, 2001, will evaluate the feasibility of standardizing the Trauma Team activation tools among same level facilities.

Minimum and maximum numbers of designated rehabilitation facilities were determined by a regional trauma patient study and hospital resource survey. The North Region supports one Level I pediatric trauma rehab and two Level II adult rehabilitation facilities. Providence General Medical Center and St. Joseph Hospitals have active rehabilitation programs including trauma rehabilitation. It is the desire of the North Region to re-examine the resources necessary to operate Level I and Level II facilities

Through the Region's Trauma Facility-Hospital Committee, a rehab ad-hoc committee will be established to explore future rehab designation needs. As part of the North Region EMS Red Book (Refer to Appendix I) a trauma rehab directory will be implemented.

Typical traumatic injuries requiring rehabilitation services include burns, amputations, peripheral nerve injuries, musculoskeletal injuries including multiple fractures, crushing or severe soft tissue injuries and severe hand injuries. The patient's deficits and functional impairments determine whether comprehensive inpatient rehabilitation or supervised specific outpatient therapy services are warranted. Comprehensive rehabilitation is defined as a formal program of multidisciplinary, coordinated, and integrated services for evaluation, treatment, education, and training. It is designed to help individuals with disabling impairments achieve and maintain optimal functional independence in physical, psychological, social, vocational, avocational and community realms. Rehabilitation is available for musculoskeletal injuries or multi-systems trauma patients with secondary disability who require physical or cognitive intervention to return home, work, or community.

**Level I**—Trauma Rehabilitation Services provide comprehensive inpatient and outpatient rehabilitation treatment to trauma patients regardless of level of severity or complexity of disability. These facilities serve as regional referral centers for patients, physicians, and other health care professionals in the community and outlying areas and have ongoing, structured programs for research, education, and outreach.

**Level II**—Trauma Rehabilitation Services provide comprehensive inpatient and outpatient rehabilitation treatment to trauma patients with any disability or level of severity or complexity within the services capabilities and delineated admission criteria.

**Level III**—Trauma Rehabilitation Services provide a community-based program of coordinate and integrated outpatient treatment to trauma patients with functional limitations who do not need or no longer require comprehensive inpatient rehabilitation.

#### **Internal Activation tools**

Designated trauma service hospitals are linked by radio and telephone with prehospital providers. When prehospital providers contact the medical control hospital, a scoring system is used to determine the level of hospital response. The Prehospital Index (PHI) and pediatric trauma score tools are regional standards for identification of trauma team response.

## **VI. DATA COLLECTION AND SUBMISSION**

Most North Region prehospital agencies have lacked the ability to submit data according to DOH per WAC 246-726-430. This WAC defines required registry data for submission by licensed prehospital services, designated trauma care facilities, and designated rehab facilities. However, during DOH's new data submission requirement transition, North Region EMS plans to continue to work with prehospital agencies to encourage them to pass through initial data elements to the reporting facilities. North Region trauma facilities have expressed the need to continue to receive initial data points from prehospital services.

The North Region facilitates and supports data collection. The North Region sets the following Goal forth.

### **Goals**

- Goal:**            **All of designated facilities and verified agencies participating in Regional QI program, and collecting and submitting data to the State Trauma Registry.**
- Objective:**    All agencies continue collect data and verified transporting agencies submit data to Trauma Registry through the designated trauma hospital as required by WAC.
- Strategy:**      North Region promotes data collection by prehospital agencies to pass on to trauma facilities to be included in quarterly data submission.
- Strategy:**      Continue to facilitate data collection in the North Region.

The North Region Prehospital Committee collaborated with regional trauma facilities to tackle the data collection and submission shortfall. After many months of discussion and surveying, a 'Pilot' data collection program was implemented.

The program was tracked through fiscal year 2001 for evaluation. Island, San Juan, Skagit, Snohomish, and Whatcom counties received a non-transport short form, plus, education about the State Trauma Registry, and to 'band' all patients. Thousands of short reporting forms were distributed to prehospital agencies. The forms will be used as a tool for prehospital agencies to pass through initial statistics to data reporting hospitals during and after DOH's data transition time.

All of the designated trauma facilities are providing data to the registry, with nearly 100% reporting for 2000.

North Region EMS is committed to promoting and supporting data collection training, maintaining current designated trauma facility reporting at 100% through FY02-03. The North Region Prehospital Committee and the Quality Improvement (QI) Committee work with state representatives to provide a continuing evaluation of the quality of data reported from this Region.

## **VII. EMS AND TRAUMA SYSTEM EVALUATION**

### **Effectiveness and Quality Assurance**

The statewide EMS and trauma care system design includes a State Trauma Registry. The State mandates that data be collected and reported by designated trauma centers on trauma patients who meet inclusion criteria. For hospitals, data is reported on deaths, transfers, and patients with trauma who meet length of stay, trauma coding, and urgent service criteria. Prehospital and hospital data is linked by trauma ID numbers enabling field and hospital care to be analyzed together or separately.

The State has made registry software available at no cost to all interested provider agencies. Even as the data collection process goes through the current transition, it is anticipated that the registry software will still be utilized by many prehospital agencies.

Each region is mandated to have a regional quality improvement program. Level I-III designated trauma centers are charged with developing this program in the region. In the North Region, the sum of the quality improvement efforts in prehospital and hospital agencies is viewed as part of a total regional quality improvement program. In addition, a county and regional element completes the regional design. The regional QI Committee reviews hospital and case data bimonthly to monitor and improve quality of care in the region. A state representative is present at all QI committee meetings and provides the region with custom Trauma Registry QI reports.

The region's hospitals surveyed as Level II and III capable have been working on a model for regional quality improvement for some time. It is expected that hospital representatives, who meet as the quality improvement committee, will continue to work on development and implementation of the regional quality improvement program within that forum. Prehospital provider involvement continues to be integral to the process and is planned to be continued in the development process.

Consistent with WAC 246-976-880, all designated trauma facilities in the North Region will have hospital wide trauma quality improvement programs to reflect and demonstrate continuous quality improvement in the delivery of trauma care. These inter-hospital programs will be multi-disciplinary and function within the framework of the hospital operating system. At a minimum, death reviews will take place for all trauma deaths occurring in the hospital. Using the American College of Surgeon's criteria, all deaths will be categorized. Some regional quality improvement element may come into play for deaths deemed "potentially or frankly preventable".

Consistent with WAC 246-976-910 prehospital agencies are invited and encouraged to participate in the regional quality improvement program. The MPDs will take the lead in developing guidelines for agency quality improvement. Advance life support transport agencies are planned to come on board first and may assist in helping volunteer agencies in their respective counties. Continuing trauma education is planned to be the focus of the regional quality improvement program. Regional forums for education are being developed to facilitate system improvement within the region.

## **Goals**

**Goal:**        **Identify a menu of quality performance indicators equal to a “standard of care.”**

Objective:    Work with all stakeholders to develop a comprehensive medical and trauma QI system that evaluates selected provider Strategys from event / incident through final patient outcome.

Strategy:     Coordinate work groups of stakeholders in a process of developing a system approach leading to positive patient outcome.

**Goal:**        **Develop system QA /QI to evaluate outcomes.**

Objective:    To evaluate medical & trauma outcomes based on menu of quality performance indicators.

Strategy:     Have in place templates for data retrieval and evaluation.

**Submitted by: NORTH REGION EMS & TRAUMA CARE COUNCIL**